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ORIGINAL ARTICLES

TWO CASES OF LITHÆMIC VERTIGO; WITH REMARKS ON THE TREATMENT OF THE GOUTY STATE.

Clinical lecture delivered

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Gentlemen:—I will now call your attention to two cases, each suffering with vertigo to a marked degree. They also present other symptoms, which they consider of minor importance, but which taken as a pathological group are sufficient to clearly stamp their morbid identity. Upon careful investigation, however, it will be found that the immediate cause of the vertigo in these patients is not precisely the same. In fact, it may be found that such points of difference will be developed by our examination as to influence not alone the treatment, but also the prognosis. To the consideration of this, however, we will return after reading a brief summary of the symptoms and clinical history. The notes of the first case will now engage our attention.

Mrs. A., a widow, born in Ireland, is about fifty-two years of age; her general health and nutrition are good, in fact she inclined to obesity. She can give us no details of family history; but thinks that her father suffered with gravel. She had always been well until some six years ago, when she lost her husband and children. Since that time she has lived alone; but looks as if she were well cared for. She at first frequently suffered with headache, and within the period named has had two attacks of gravel. For the last three or four months she has experienced a very annoying vertigo, which she now has every day. It comes on while eating breakfast, or shortly afterwards, and lasts all day, more or less, being sometimes hardly noticeable and at other times she is obliged to sit down until the dizziness has passed off. It is made worse by fright or emotion; it is not affected apparently by food or the state of the digestion. Her appetite is not very good at present; the bowels are not constipated. She no longer has headaches and has not had an attack of gravel for several years, but she frequently notices a heavy, red sand deposited in the vessel by her urine after standing. Cessation of menses occurred five years ago, and she is inclined to attribute all her troubles to the change of life as women are very apt to do. Proceeding to an examination of the patient, we observe that her physical powers and mental functions are unusually good. Her digestion is fair, according to her own account, but we find her tongue slightly covered with a white deposit especially towards the back; it is pale and slightly swelled; she sometimes has flatulence. Bowels are moved daily. The urine is rather less than it should be. The specimen which she brings with her is of an amber color, slighly acid in reaction, of specific gravity 1020, and is free from albumen and sugar. In this specimen there is no evident precipitate, or brick-dust deposit; and the relative amounts of urea and of uric acid have not as yet been determined. No abnormalities have been found in connection with the heart, nor is there evidence of increased arterial tension or of thickening of the vessel walls in the radial arteries. The pulse is seventy-eight to the minute. Her finger joints, especially the distal ones, are prominent and are somewhat tender upon pressure. The pinnæ of the ears are both thickened, but no chalky nodules are to be seen. The ring finger of her right hand is drawn downwards towards the palm of the hand. This, which is known as Dupuytren's contracture, is rare in women; it has been found to be due to shortening of the palmar fascia which sends prolongations to the fingers, the flexor tendons are not implicated. It is, in a high degree, a hereditary affection coming on in adult age or after middle life.

In this patient, the attacks of gravel and persistence of deposit of urates in the voided urine; the frequent attacks of vertigo preceded by headache or migraine, the deformity of the finger-joints and in the lobes of the ears, all combine to mark the case as clearly one of irregular gout. It is interesting in this connection to note that the contracture of the finger also has been claimed to be of gouty origin by Adams. I should state that she denied that she has ever had anything like an attack of typical gout either in hands or feet. The character of the vertigo in this patient is objective—she says that the "room seems going round." It is relieved by closing the eyes and by sitting or lying down. It is unaccompanied by ear-symptoms, sick stomach or nausea. It was preceded and seems to have taken the place of migraine, which no longer occurs. It has not affected her mental faculties. We will now turn to the second patient, whose history is briefly as follows:

Mrs. B., also a widow living in comfortable circumstances, is spare instead of stout. She carries her age remarkably well; since she tells us that she was born in 1812, and is therefore now in her eighty-second year. She walks about unattended, has all her intellectual and bodily faculties fairly well preserved. She has lost her teeth but has an artificial upper and lower set which she uses very well. Fifteen years ago she had a double operation for cataract; and has now good vision. Her hearing is good; but we find that it is less acute in the right ear than in the left. Digestion good, bowels regular, urine examination negative (slightly acid, specific gravity 1017, no albumen or sugar). She passes water frequently, rising twice or thrice during the night, but the total quantity in the twenty-four hours is not ex-

cessive. She complains bitterly of dizziness and noises in the ears "like grasshoppers." Examination of the ears by Dr. Behrens reveals senile thickening and retraction of membranes; but no impaction of cerumen or other local cause for the tinnitus. The first sound of the heart is some what impaired (murmurish), the second sound at the base accentuated, but there are no murmurs indicative of valve lesions. The radial arteries are large and their walls sensibly thickened; the pulse is moderately slow and lacking in tension, occasionally intermittent. She states that she had good health until she had the grippe three years ago; and has never been so well since as she was previously. She has had vertigo since last Christmas, and she thinks it is getting worse. She never was troubled much with headaches and certainly has had none lately. She states that the vertigo is always absent at night and when she is lying down: but comes on while she is dressing herself for breakfast and lasts all day. On some days it is worse than on others. It is made worse by unusal exertion or fatigue. She has not fallen as a result of dizziness but feels as if she might, as "her head swims so." The vertigo is principally subjective. Some nineteen years ago she had a spell of unconsciousness while on her way down stairs to get breakfast, and without any warning fell on the landing, but soon regained consciousness and went on with the day's work. From this no ill results followed, and the attack was never repeated. It was probably an attack of syncope, but might have been the result of an embolus in a non-motor portion of the brain. A few negative notes be added. There is no palsy and no skin eruption, no œdema, no tremor. Intellection not impaired; memory not appreciably affected. No digestive disorder. She has not had any of the ordinary manifestations of gout, and there is no evidence of renal disease, at present at least. Her family history is unknown.

REMARKS.

It would be stretching a point to call this, in the absence of the usual evidence, a gouty patient, and yet her physiognomy strongly impresses me with the view that she descends from gouty ancestors. It is, however, a matter of little consequence whether senilty or gout, is responsible for the atheroma of the arteries which we find to be present, and which in all probability is the cause of the cerebral disorder. If she were forty instead of over eighty, the diagnosis would undoubtedly be gouty disease of the blood vessels; as it is, however, her age is a sufficient explanation. It is strange that greater deterioration of the intellectual faculties has not yet occurred, but this will be a natural sequence owing to the influence of diminished blood supply to the hemispheres from the loss of resiliency in the coats of the arteries, combined with the tendency to cerebral atrophy usual in old age.

The tinnitus aurium and vertigo are suggestive of Méniére's disease, from which this case differs in several important particulars. In Méniére's disease, the tinnitus is usually limited to one side of the head, and the patient tends to fall if standing, or, if walking, goes in the arc of a circle, towards the unaffected side. The symptoms are comparatively rapid in their onset and progress, the loss of hearing is marked, and is worse in each attack until complete deafness supervenes, when the vertigo ceases. The seizure is often accompanied by vomiting, which may continue for some time. The patient after such an attack may be entirely free from dizziness until another seizure is experienced, and may be permanently relieved if the aural disorder can be removed by treatment. The present case has therefore only a superficial analogy to a case of Méniére's disease.

The chief feature of interest in the second patient is her advanced age with so few evidences of senilty as she presents. With care she may yet enjoy several years of life. The vertigo is functional and in both cases is merely a symptom of an underlying condition of the blood vessels, which is often caused by lithæmia; it is certainly aggravated and its course made more rapid by an excess of urates in the blood. As regards treatment, therefore, in each case, it should be directed towards correcting a tendency to the gouty state and as far as possible to obviate the effects and prevent future manifestations. As regards diagnosis, it may be as well to state that vertigo is fully recognized as a symptom of irregular gout by Trousseau, DaCosta, Loomis and others, although some recent systematic writers do not mention it. It may be due either to the direct action of the blood carrying the gout-poison directly to the cerebral cortical centres, or to the indirect effect upon nutrition from the atheromatous and calcareous changes of the cerebral blood-vessels, which interfere with the circulation of the blood and its distribution to the great nerve centres. Considering these cases as illustrating the two conditions mentioned, the treatment will be modified by this fact. In each the usual advice is given as to hygienic and temperate living though this advice is not required in its usual sense, for neither is addicted to the use of stimulants. Gouty patients should pay especial attention to the condition of the skin, and should avoid such exposure as would lead to chilling the surface and producing internal congestions. Great care should also be taken to keep the stomach in a normal condition avoiding excess of eating or drinking, and all articles which are known to fermentation and flatulence. Occasional cholagogue purges are useful, especially with colchicum preparations, but too frequent purgation is debilitating, and should therefore be avoided. The kidney secretion must be watched and the appearance of a brick dust deposit should be regarded as a cautionary signal, to indicate either a deficiency of oxygen, hepatic failure, or errors of diet, or all combined. The occurrence of albuminuria should lead to the institution of proper measures to prevent the developments of renal congestion, or degeneration (gouty kidney).

Among the most important means of treating the gouty state is the persistent use of a good natural lithia water, which may be used at the table and at other times. As pointed out by Sir Henry Thompson, the artificial mineral waters or solutions of salts are less efficient therapeutically than waters from Nature's laboratory. Many mineral waters are offered to the public for lithæmic conditions, whose only therapeutic value resides in the water which they contain. Trousseau indeed cautions against an excess of water drinking by gouty subjects as being injurious and likely to intensify the symptoms. This is more likely to occur where the kidneys have been structurally altered by the disease, and therefore have their functional activity more or less reduced. Lithia on chemical grounds is considered

the most useful of the alkali remedies, because it forms more soluble salts with uric acid than any other base. It is not clear, however, why uric acid should combine with the lithia salts in the presence of sodium carbonates in the blood, when as a rule the base which forms the insoluble salt is considered to have a stronger affinity for an acid than one which combines with it and remains in solution. I mention this because I am not willing to concede all the good results from such a water, for instance as the well known Buffalo Lithia Water, to the presence of the lithia, any more than I would be to ascribe it entirely to the pure water which it contains. The fact is that experience has abundantly shown that the good effects of the natural lithia water are to be ascribed to the peculiar combination of salts, just as in drug prescribing we obtain special effects by combining our remedies. It is gratifying to witness the good effects of the daily use of four or five glasses of the Buffalo Lithia Water in relieving the usual symptoms of lithæmia, or even in removing the more severe condition of gravel or uric acid deposits. At the same time, I do not wish to be misunderstood. I think that at the present day there is danger of our taking too narrow a view of the pathology of gout, and to sum it up as simply uricæmia or lithæmia (lithiasis of Fothergill), or an increased amount af uric acid in the system. This is an unfortunate errôr. Uric acid is not the cause of gout; *it is the gout, on the contrary, which causes the excess of uric acid.* In other words, the gouty diathesis or condition is that in which there is a tendency to increased formation of uric acid, and also of oxalates, and it is accompanied by other well-marked pathological occurrences which complete the clinical picture. In several other disorders we have as great or even greater development of uric acid in the blood without the typical and classical tissue changes of podagra, and in gout the amount of uric acid is not the sole measure of the intensity of the gouty manifestations. The nervous phenomena of gout must not be overlooked, and the fact that heredity plays such an important part in its production, and its well recognized diathetic character, give much support to the view of the essentially nervous character of the disease.

Sir William Roberts has, in a recent lecture, shown that in gouty subjects the uric acid exists in the blood in the form of the soluble quadrurates while in gouty patients it exists in the less soluble form of bi-urates; the sodium bi-urate being particularly insoluble. Where this sodium bi-urate is in process of deposition in the form of tophi in the parenchyma of organs like the kidneys, in the articular surfaces of joints, and around them; and in the pinnæ of the ears, it is conceivable that a remedy like piperazine which exercises an extraordinary solvent effect upon the urates, might be useful for a rapid effect. But a rational treatment would be to shut off the supplies of soda and to diminish its total quantity in the blood. Acting upon this, Dr. Roberts has for years been in the habit of advising his gouty patients to restrict the use of salt with their meals, especially since table salt or sodium chloride in solution has the power to precipitate sodium bi-urate and increase the deposits in the joints. It is worth noting that butcher's meat contains considerable proportion of the chloride of sodium, while salt or pickled meat, or fish, is especially objectionable. Jonathan Hutchinson limits the amount of fresh fruits to be eaten by gouty patients, and especially of acid fruits, which are usually eaten with sugar. Some vegetables contain a decided portion of sodium salts, notably white potatoes. While on the subject of diet I might say that recent authorities upon the treatment of irregular gout—and I refer especially to a recent lecture by Prof. Da Costa—limit the quantity of sugars and starches (carbohydrates) in the food, chiefly on account of the tendency to the occurrence of acetous fermentation in the stomach in gouty patients. The former interdiction of nitrogen-containing foods is now removed, at least sufficiently to permit a varied dietary; one that is adapted to the digestive capacity, and to keeping up the forces of the economy. An excess of albumen, however, is to be carefully avoided so as not to throw too much work upon the kidneys. In patient number one, the general dietetic treatment just indicated will be followed, with the cholagogue laxative given at night twice a week, and the lithia water, if she can provide herself with it. She shall keep her stomach in good condition by avoiding pastry and sweets, and the use of tea or coffee which retard digestion and interfere with elimination of waste. Daily exercise of an hour or more each morning is an important part of her treatment. The second patient requires a cardiac tonic to increase the amount of blood sent to the cerebral arteries, and supplies of nourishment at short intervals in order to improve the quality and increase the total quantity of the blood. To improve her digestive function she shall have tincture of nux vomica, five minims, tincture of cardamom comp. twenty minims, tincture of gentian, enough to make one drachm, which is to be taken in hot water half hour before meals. She shall also take tincture of strophanthus five minims three times a day, which shall be gradually increased until its effects are evident upon the pulse. In advanced age the hygienic management is often of more importance than the medicinal treatment. If the blood tension becomes abnormally increased under the strophanthus, we will temporarily resort to nitro-glycerin. (Case No. 2 returned a week later with improvement in strength and volume of pulse, and with rather less vertigo and tinnitus).

PNEUMONIC FEVER—ITS SYMPTOMATOLOGY.

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RESPIRATION.

During the stage of invasion there is experienced by the patient a sense of oppression of the chest, with some difficulty of breathing and an acceleration of the respiratory movements. As the disease progresses and exudation takes place the number of respirations per minute are still further, sometimes greatly, increased; and they are short, quick, anxious and difficult.

In my series of cases the number of respirations per minute ranged from eighteen to 100. In 33 per cent. they ranged between twenty and thirty. In 41 per cent. from thirty to forty. In 19 per cent. from forty to fifty. In 16 per cent. they ranged from fifty to sixty. In eight cases from sixty to seventy. In five cases eighty was reached. In one case they numbered ninety, and in two cases 100 was attained. As might be supposed, the greatest frequency was noticed

in children. Very great frequency in adults was generally an unfavorable or fatal symptom.

Andral[1] says that the respirations usually rise to from thirty-two to thirty-eight. In adults if they attain fifty the case is almost invariably fatal, but in children they may rise to sixty, or even eighty per minute. Bouilland[2] found the average number of respirations in twenty-six cases to have been thirty-two per minute, and after recovery sixteen per minute. Chomel[3] found the respirations in his cases to range from thirty to forty, and sometimes up to sixty per minute. Fox[4] says that the number of respirations per minute is seldom less than thirty, is often thirty-five to forty, and may even reach to sixty or seventy. Gerhard[5] says that they are usually from forty to fifty, and may be fifty or sixty per minute. Green[6] gives the number as from thirty to forty in adults, and up to seventy in children. Huss[7] found the respirations number from twenty-two to sixty per minute in successful cases and seventy to eighty in fatal cases. Juergensen[8] states that he has never known the respirations number more than fifty per minute in uncomplicated cases except where the patient was moribund. Swett[9] says they usually number about thirty per minute, but they may rise to forty or sixty. Ziemssen[10] found, in children, that under five years of age the average number of respirations was from fifty to sixty—sometimes rising to eighty—and over five years forty, and often sixty per minute. Loomis[11] says they are not unfrequently over sixty per minute.

The lowest number of respirations met with by me was eighteen per minute, in the case of an adult who, in health, breathed fifteen times per minute. Little acceleration of the breathing is a peculiarity of certain epidemics[12] and forms of the malady. A very slow respiration rate may be due to an accompanying cerebral lesion, *e. g.*, inflammation with effusion.[13] In the case of persons who habitually use alcohol to excess the breathing is often not much accelerated. This is also true of some cases of senile, intercurrent or latent forms of the disease.[14]

In the ordinary form of the malady Grisolle[15] saw a case in which the respirations did not exceed twenty per minute, and Raven[16] one in which the rate did not go beyond seventeen.

Sometimes the frequency of the respirations is almost incredible—even exceeding the pulse in number. This is especially noticeable in young children.

Baginsky[17] has observed a respiration rate of ninety-two with recovery of the patient. Bednar[18] has seen the respirations as frequent as 107 per minute. Chomel[19] has met with a rate of ninety-two in a successful case. Gibbon[20] records a recovered case in which the respirations reached sixty per minute. In another case, fatal, they numbered seventy. Both were adults. Grisolle[21] observed seventy-five to eighty per minute in a case which recovered. Parkes[22] saw a case, with both lungs involved, in which they numbered seventy-eight per minute. The patient, an adult, recovered. Sturges[23] reports the case of an adult, with an assemblage of very grave symptoms, with a respiration rate of 100, yet recovery ensued.[24] There is reported in the U. S. Marine-Hospital Reports[25] the case of an adult whose respirations numbered ninety-five per minute. The patient died. Lee[26] reports the case of an adult in whom the respirations ranged between seventy and 100 per minute for several days, with recovery. Wittich[27] has seen the respiration rate as high as seventy per minute in adults, and ninety in children. Lebert[28] has noticed sixty-eight respirations per minute in successful cases. Satterthwaite[29] has not seen the respirations more frequent than sixty-four per minute.

The frequency of the respirations is a very good index of the amount of danger present. In the case of an adult the patient is in danger when the respirations ascend to forty per minute, and in great and imminent danger if the number rises to fifty or sixty. Exceptions to this rule are not infrequent.

The acceleration of respiration is due[30] to a combination of causes, among which may be mentioned the pain, diminished respiratory capacity, exalted temperature, irritation of the nervous respiratory centres, etc.

Increasing frequency of the respirations may be the only noticeable symptom of the disease, especially in the aged.[31]

A man, aged twenty-four, ill with typhoid fever, had no symptoms pointing toward thoracic disease except frequent respiration, which was attributed to tympanitis. At the autopsy, in addition to the lesions of enteric fever, the entire right lung, except a small portion at the base, was found in a state of red hepatization.[32]

The number of respirations per minute in health varies in the case of different individuals within wide limits,[33] and this fact must be considered when estimating their acceleration. A respiratory rate which in one might be greatly in excess of the normal indicates no increased frequency in another person.

One of the most noticeable facts regarding respiration in pneumonic fever is that from the very first—in advance of any demonstrable local lesion—there is a disproportion between the pulse and respiration rate,[34] clearly indicating that the lungs are already bearing the brunt of the disease.[35] The more severe and dangerous the attack the more marked is the disproportion.

It has been stated that during convalescence the pulse-respiration ratio may be more perverted than ever,[36] owing to the slowing of the pulse at this period, whilst the aerial capacity of the lungs is yet greatly diminished, but this has not been the case in my experience.[37]

The character of the breathing is very characteristic of the disease and, rarely, may be in itself sufficient for a diagnosis. Indeed if the inspirations are abrupt, short, superficial, repressed or interrupted and are followed immediately by expiration[38] in an acute febrile attack, we may rest assured that pneumonic inflammation is present,[39] although inappreciable by the stethoscope.[40]

The strikingly peculiar form of breathing known as Cheyne-Stokes respiration is met with in some rare cases of pneumonic fever. It is usually associated with cerebral, cardiac or nephritic disease, although it may exist without such complications. Its presence in this disease is probably purely accidental. It occurred in three of my cases.

Juergensen[41] met with this form of breathing three times in fifty-four cases, all of which were fatal. This high percentage is clearly a mere coincidence.

The phenomena observable in this form of respiration are evidently due to changes in the respiratory nervous centres.[42] This, and all other forms of anomalous respiration, is an ominous symptom.[43]

Mosso[44] claims that Cheyne-Stokes respiration is nothing more than an exaggeration of the normal rhythm, and offers in proof direct experiment. A respirator is placed over the mouth and nose and connected with a delicate gasometer, and this with an apparatus for producing tracings. The tracings show rhythmic variations of respiration as in Cheyne-Stokes breathing, both as to time and quantity of air respired. The instrument may be worn during sleep, yet the objection raised by Haycroft,[45] that the experiment is not conducted under normal conditions, must have some force. The resistance of the gasometer naturally tires the respiratory muscles and exhausts the nerve centres.

I have met with a series of cases in which the respiration was very peculiar, although differing from the typical Cheyne-Stokes variety. Two of these are as follows:

A farmer, aged twenty-three, of slight build but of general good health, had felt languid and weary, and had had various fleeting pains throughout the body for several days, when, on Jan. 4, 1881, he was compelled to take to his bed.

The attack was inaugurated by chilly sensations, alternating with flashes of heat, followed in a few hours by dyspnœa, cough, rusty sputæ, and pain in the left infra-axillary region. The case pursued a severe, but on the whole an ordinary, course, and I saw him first on the tenth day, in consultation with his regular attendant. At this time the cough was almost incessant, and was accompanied by an abundant prune-juice expectoration. The pulse was 130 and irregular. The skin was harsh and dry, and the temperature 103.5°. The tongue was dry, pointed and tremulous, and the teeth were covered with sordes. There were frequent attacks of epistaxis. He obtained some sleep, had no delirium, and the mind was quite clear. The bowels were confined, abdomen retracted, and urine scanty. The patient lay upon his back, nauseated, with occasional vomiting and complete anorexia. The respirations numbered thirty-five per minute, were very shallow, and were remarkable for a very short inspiration, followed immediately by a greatly prolonged expiration and pause.[46] The respiratory act, however, was repeated at perfectly regular intervals. Percussion and auscultation revealed consolidation of the upper lobe of the left lung. The patient passed into a low, stupid state, and died four days later.

A boy, aged three, had had a cough for a week; ate freely of nuts in the evening, fell asleep at nine o'clock, and was found in convulsions at five o'clock next morning. At six o'clock, and after the convulsion had subsided, although he was still dazed, his pulse was 120 and respirations 40 per minute, and temperature 102°. There was dullness, diminished respiration, bronchial breathing and an abundance of fine and coarse râles over the entire left lung, and over some parts of the right lung behind. During the forenoon he was irritable, although he played some and sat at the dinner table. At two o'clock he became drowsy, and no answers could be had from him until four o'clock, when he said "no," in declining a drink. At five o'clock he had a second, and at 6.30 o'clock a third convulsion. Immediately upon the subsidence of the last convulsion, and suddenly, like a flash, general pulmonary œdema set in. The breathing became very rapid, with noisy tracheal râles, universally diffused crepitation and moist ronchus. A frothy, mucoserous fluid, at first clear, but finally tinged with blood, ran in great abundance from the mouth and nose.[47] The respirations, beginning with a deep, convulsive inspiration, would gradually become feebler, shallower and slower, until they were scarcely perceptible, when there would be again the deep, convulsive inspiration and the series of gradually decreasing respirations. Each series occupied about five minutes, and differed from the classic Cheyne-Stokes variety in there being a sudden, abrupt, instead of a gradual, rise to the highest point of respiratory vigor. The amount of pulmonary œdema and discharge gradually diminished, but the character of the respirations did not improve, and, prostration increasing, he died at midnight.

The movements of the chest walls are usually more or less impaired. The affected side participates but little, sometimes not at all, in the movements necessary to carry on respiration, the muscles of the opposite side and of the abdomen and the diaphragm performing most of the function.[48] This diminution of movement depends upon two factors—the uselessness of respiratory efforts to inflate an hepatized lung, and the pain caused by the attempt. This diminished expansibility[49] of the chest may be readily detected by placing the hand over the affected region. In the early stages of the attack the expansion will be suddenly arrested, sometimes with a quivering sensation, a short time before the hand on the opposite side appreciates the greatest dilatation and the completion of inspiration.[50] This repression of the full inspiratory expansion is due to the acute pain produced by the completed act. The same phenomenon may be noticed in a lesser degree at a later date, when it is due to the obstacle offered by the solidified lung.

During the exudation stage the application of the hand over the affected region will reveal increased intensity of the peculiar vibratile sensation noticeable when the patient speaks, known as the vocal fremitus. This sign will appear as soon as the hepatization can be recognized by percussion.[51]

Increased vocal fremitus is a valuable diagnostic sign, but in palpating for this it must be remembered that its character will vary with the pitch of the voice, the diameter of the larger bronchi and their proximity to the surface, the thickness and character of the thoracic walls and the distance of the hepatized lung from the larynx. It is best estimated by simultaneously and symmetrically examining both sides of the chest. Before practicing for this sign the patient should be directed to cough, in order that the bronchial tubes may be freed from accumulated secretions. The increased vocal fremitus is due to the fact that the vibrations are not lost by being diverted into all the more minute ramifications of the bronchi and the alveoli, but the solidified lung, being an excellent conductor of vibrations, takes them up in the form in which they leave the larynx and conveys them directly to the hand of the observer. Inasmuch as the condition of pulmonary tissue in this disease is more complete than any other, the local vocal fremitus is more distinct than in any other malady. It may be absent in rare cases, due to occlusion of the main bronchus leading to the part.[52]

In many cases respiration is carried on to a great extent by the diaphragm, resulting in more extensive movements of the abdominal walls that in health. Such respiration is called abdominal. In many of these cases the fixed and motionless condition of the thoracic walls contrasts markedly with the extensive range of movements of the abdominal parieties, and is highly suggestive of pneumonic fever. In case, however, the diaphragmatic pleura is involved in the inflammation it almost entirely ceases to act and the respiration is then strictly thoracic and very much oppressed.[54]

In some cases, women and children especially, whilst the chest wall of the affected side or part remains almost inactive,[55] other portions have, by way of compensation, an increased range of movement.

Thus Freidleben[56] says that in the case of children, whilst the upper half of the affected side remains motionless, the lower half from the seventh rib down, has a much greater range of movement than normal. He was of the opinion that this always obtained, regardless of the seat of inflammation, but in this he was clearly in error.

In estimating the range of movements of the chest and abdominal walls during respiration in pneumonic patients, their sex and age should always be considered. Women[57] and children naturally expand the upper part of the chest more and the lower portion of the chest and abdomen less than do men or the aged of either sex. Thus an amount of infra-clavicular expansion ample for an adult male or an aged female would be below par for a child or an adult female, whilst the converse would obtain for infra-axillary action. The side of the chest corresponding to the arm most in use is normally larger and has a greater range of movement than its opposite. In the case of corpulated persons the respiratory movements are slow, sluggish and impeded and the abdomen is unyielding.[58]

To measure accurately the movements of the thoracic walls is quite a difficult undertaking, from the fact that these walls are very irregular in outline and that the normal and abnomal range of movement varies at each particular spot. Besides, were even these difficulties overcome no account could be taken of the movements of the diaphragm.

Next to the practiced eye and hand the most convenient and reliable method of measuring the range of movement of the thoracic walls is that proposed by Quain.[59] His instrument consists of a flat case, having a graduated dial and index acted upon by a simple mechanism. A cord of sufficient length passes through an aperture in the case and is connected with the internal mechanism. In using the instrument the dial is placed firmly against the spine and the end of the tape over the sternum. The tension of the string during inspiration is shown by the excursions of the index upon the dial. The same information may be obtained and graphically recorded by the stethographs of Vierordt and Ludwig, Rosenthal, Fick, Gerhard, Marcy, May, my own

and others. The principle of all these instruments is the same. An index is acted upon by the movements of the chest and an attached pencil records the range of movement upon a ribbon or plate moved along by clockwork. Such an instrument accurately records the range and rapidity of the respiratory movements.[60]

In pneumonic fever it is found that not only is the range of movements of the chest wall covering the affected portion of lung greatly restricted, but the character and relations of the different parts of the respiratory curve are altered.

Graphic representations of the form of the chest may also be obtained by the use of the cyrtometer.[61]

To make mensuration an important and valuable factor in the diagnosis of pneumonic fever the patient must endure much more than is always best for him. He must sit erect, the chest must be bared and much time is required. For these reasons it is employed but little in actual practice.

Whether or no the side of the chest corresponding to the affected lungs is enlarged is a point on which authors differ. The proposition is denied by Rokitansky[62] and some others, but is acknowledged as a fact by the vast majority of those writers[63] who have expressed an opinion upon the subject.[64] I have made accurate measurements, both during the attack and after recovery, in a considerable number of cases and am convinced that such enlargement does occur. Not only may the enlargement be visible externally but the distended lung may encroach upon the mediastinum so as to slightly displace the heart[65] and great vessels. The enlargement may be confined to a local bulging, as at the apex or base.

After recovery the affected side, as a whole or in part, may undergo more or less contraction,[66] due, no doubt, to the contraction of the organized false membranes plastering the pleura. There may be depression of the intercostal spaces.

Duclos[67] has called attention to a peculiar depression, called by Trousseau the "peripneumonic furrow," to be found at the base of the chest in many cases of pneumonic fever. The depression is most noticeable in those cases in which there is severe pain and a motionless state of the affected side of the chest. It is due to rigid muscular contraction. It is not present in a very large proportion of cases,[68] yet I have met with it in a few infants. In my cases it has always disappeared after the third or fourth day.[69]

The expired air has an increased temperature,[70] is saturated with moisture[71] and may have a peculiar[72] or fœtid[73] odor. The amount of carbonic acid excreted is sensibly diminished.[74] The expired air is almost entirely free from microbes and dust—the respiratory tract acting as a filter.[75]

In pneumonic fever there is almost always a decided oppression at the chest, which, in most cases, amounts to actual dyspnœa.[76] In rare cases it may be so intense as to produce a sensation impending death by apnœa.[77]

A German, aged fifty-three, was admitted into the hospital after having been ill a week with pneumonic fever. "His breathing was most difficult, it being necessary to keep him in an almost upright position. The temperature was 104°, pulse 149, and respiration forty. He expectorated large quantities of clear frothy mucus. Death occurred on the tenth day. At the autopsy the left lung was found hepatized, with obliteration of the pleural sac. The right pleura was adherent in many places and its cavity contained a pint of serum.[78]

A man, aged twenty-one, nine days ill with pneumonic fever, was unable to lie down or turn in bed. "His countenance was flushed, puffed and anxious; skin hot and dry; respiration sixty in the minute, pulse 120, with great pain in the right side, and incessant short cough, with scanty red expectoration. He expressed great exhaustion, was restless, dull and indifferent to his situation. His life seemed absorbed in the labor of breathing and coughing." The whole of the right, and a portion of the left lung were consolidated. On the following day the pulse had fallen to 110 and the respiration to forty-six per minute and two days latter convalescence was fully established.[79]

A male child, aged eighteen months, was taken with pneumonic fever, locally affecting the bases of both lungs, April 21, 1880. From the first respirtion was short, rapid and oppressed. The dyspnœa gradually increased and on the tenth day it was so intense that the child gasped for breath, grasped the throat and pulled the clothing of the chest, could not lie down and wore a look of intense anxiety and alarm. He did not cry, was insensible to his surroundings and seemed to have only one object in life and that was to get more air into the lungs. These distressing symptoms gradually subsided and convalescence was declared on the fourteenth day.[80]

The dyspnœa was not of the same character and is usually not so severe as that met with in asthma and some other diseases.

Cœlius Aurelianus[81] says that the patient often compares the oppression to the placing of a heavy weight upon the chest, which presses its walls backwards. Many of my patients expressed their sensations by a similar comparison. Many complained of a constriction of the chest as of a tightly drawn girdle.

In children often,[82] and sometimes in adults, the dyspnœa may be paroxymal and suffocating, threatening asphyxia. Andral[83] noticed that patients often experience a sensation that they do not breathe on one side. This observation I have been able to confirm in a great number of instances. Even in cases with involvement of less than an entire lung, patients have been able to accurately locate the portion of lung impermeable to air; and as resolution advances they often volunteer the truthful information that the local affection is disappearing, because, as they express it, they can "breathe through"—the air entering the formerly closed parts and making the occurrence known to the patient.

Salter[84] lays down the law that the amount of dyspnœa is not dependent upon the extent of the injury inflicted upon the lung, but upon the possibility of inhaling more air by violent inspiratory efforts. Thus a phthisical patient may not have the use of more than a quarter of his lungs, yet, although his respirations are very frequent, his sense of dyspnœa is but slight. In such an instance it is clear that any amount of inspiratory effort can not compel the destroyed portion of lung to do any work whatever. In pneumonic fever I have found many exceptions to Salter's rule.

The oppression and dyspnœa is due to the presence in the lungs of an increased supply of blood and of inflammatory products, and to a hypersensibility of the pulmonary nerves[85] and an irritation of the respiratory centres.[86] The rapidity of respiration and grade of dyspnœa will vary, to a certain extent, with the amount of lung tissue involved, the extent and intensity of the bronchial catarrh, the quantity of pleuritic effusion, the height of the fever[87] and peculiarities of the prevailing epidemic.[88]

In some cases in which the greater part of the pulmonary tissue of both lungs is affected the encroachment of the dilated capillaries upon the air-spaces so diminishes the quantity of air in the lungs as to speedily cause death by apnœa. Such cases are usually classifitd in the death-returns under the heading, "congestion of the lungs." I have met with two examples of this condition, and its rarity may be judged from the fact that a physician[89] of long and extensive experience has met with only five or six cases. In these cases the most notable symptoms is the difficult and unsatisfactory manner in which res-

piration is performed, togther with a feeling of weariness and a sense of impending death.

A young butcher of splendid muscular development, exposed himself to cold, and upon his arriving home at 9 P. M. complained of feeling ill. "He said that he felt chilled to the bone and could not get warm; that breathing was rather difficult and unsatisfactory; and repeatedly, in the midst of joyful surroundings, expressed the conviction that he might never leave his bed alive after having entered it that night." He died within five hours, and at the autopsy the lungs were found generally congested and as black as tar." The left heart and arteries, as well as the pulmonary veins were empty, while the right heart was enormously distended with black blood, as were also the pulmonary arteries and venæ cavæ. The peripheral veins were collapsed and bloodless.[90]

The amount of dyspnœa does not, however, always bear a definite relation to the extent of pulmonary involvement or other symptoms. In many cases the amount of local inflammation is trifling, yet the difficulty of breathing is very great, whilst in other cases with most extensive hepatization there may be little or no dyspnœa.[91]

It has been a widely held opinion[92] that apical inflammation causes greater dyspnœa than an equally extensive involvement of the lower lobes, but this is not confirmed by my experience. In phthisical subjects dyspnœa is usually slight.[93]

The dyspnœa may be intensified by a variety of circumstances, *e.g.*, fear, nervous excitement, high fever, bronchorrhœa, obliteration of bronchi; empyema, pleuritic effusion, deformity of the chest, absence of one lung,[94] pain, enlargement of the spleen or liver, hepatic inflammation or abscess, gastroectasis, ascites, abdominal tumors, advanced pregnancy,[95] obesity, anæmia, spasm of the larynx, cardiac disease, cerebral disorders, etc.[96]

A dyspnœa readily recognizable by the observer, but which is not appreciated by the patient, is of much graver import than that form which so greatly distresses and alarms the sufferer. A most dangerous kind of dyspnœa is that which forbids natural sleep and is aggravated by narcotic drugs. Many of these patients assert that their breathing is not embarrased, when any one can perceive the contrary. A dyspnœa of this kind, accompanied as it is apt to be, with dusky cheeks; muttering delirium, from which he can be apparently easily aroused to speak of irrelevant matters; increasing dullness of intellect; a viscid, dark expectoration which clings to the teeth and lips and which becomes more and more scanty until it is suppressed; a rising and falling of the trachea with each respiratory act and a clicking noise with each inspiration is full of peril, and a patient presenting such an assemblage of symptoms may usually be considered as doomed to die.[97]

It sometimes occurs that the pneumonic patient passes through several days of illness with only the ordinary amount of respiratory difficulty, when restlessness, prostration, dizziness, tinnitus, delirium, cyanosis, coldness of the surface and extremities, clammy perspiration, a weak and small pulse, and a dreadful sense of thoracic constriction and dyspnœa appear upon the scene, striking consternation and terror to the heart of the experienced observer. Examine the chest, however, and the physical signs are found unaltered; hepatization has not extended its limits, and the unaffected portion of the lungs remains free from complications. What are the causes of the sudden access of these appalling symptoms? Are they due to chemico-vital changes in the blood acting upon the central nervous system? I am inclined to this view.

A practical point in the recognition of dyspnœa is the fact that it is always increased by exertion. It may be unrecognizable when the patient is at rest, but it is easily appreciated when he moves, coughs, speaks, etc.[98]

In extreme dyspnœa the countenance is congested, livid and anxious; the nostrils dilate to their fullest extent at each inspiration; [99]the patient's entire attention is given to his breathing; he constantly attempts to bear his breast and raise his head and shoulders from the bed; he can scarcely speak, and when he attempts to do so it is only by gasps, to be followed by greater difficulty of breathing; and, save an appealing glance at each new-comer, he remains oblivious to his surroundings. Under such circumstances life, usually, cannot long continue,[100] although exceptions to this rule are recorded in my case books. The intensity of the dyspnœa and amount of anxiety measure with comparative accuracy the degree and imminence of the danger present.[101]

When the dyspnœa is out of all proportion to the amount of lung involved and the other symptoms, attention should be directed to the functions of the kidneys, for it has been noticed that in the case of persons suffering with albuminuria there is apt to be excessive dyspnœa.[102]

With frequent and difficult respiration the speech will be short and gasping, the patient being able to articulate only a few words without taking breath. Lyons[103] found that his patients could count from four to nine seconds, only, without regaining their breath; but, as the result of numerous observations on this point, I would extend the limits. Some of my patients, at the height of the fever, could easily count up to twenty or twenty-five without taking breath; and, on the contrary, others could with difficulty articulate one, two, three, four—then a gasp.

Moaning and grunting are very frequent symptoms in children,[104] and they have been noticed in adults.[105] There may be pharyngitis,[106] laryngitis,[107] with ulceration,[108] angina, hoarseness and loss of voice.[109]

In pneumonic fever the gross aërial capacity of the lungs is diminished by exactly the amount of encroachment of the dilated capillaries and inflammatory products upon the air-cells. Inasmuch as the inspiratory force and normal capacity of the lungs varies within wide limits in every case, it is quite impossible to estimate the diminution of capacity.

The inspiratory force, as measured by the mercurial column, is diminished, and if the hepatization is extensive, the same obtains in expiration.[110] As in health, the latter always remains greater than the former.[111]

In three cases Eichorst[112] measured the force of respiration as follows: The first case was a laboring woman, aged fifty-nine, with hepatization of the lower lobe of the left lung. Inspiration, 25 millimeters; expiration, 36 millimeters. On the day preceding the crisis it was 31 and 32 millimeters, respectively. The second patient was a laborer, aged 46, with consolidation of the left base. Inspiration, 23 millimeters; expiration, 37 millimeters. Six days after the crisis it was 50 and 57 millimeters, respectively. The third was a laborer, aged twenty-seven, also with hepatization of the left base. Inspiration, 22 millimeters; expiration, 24 millimeters. Later it was 13 and 14 millimeters, respectively. On the day of crisis it was 36 and 38 millimeters, and three days later it was 43 and 46 millimeters, respectively.

PHYSICAL SIGNS.

Percussion.—In pneumonic fever the altered den-

sity and permeability to air of the diseased parts of the lungs give rise to variations in the sound produced when the surface of the chest is percussed. Although a few writers[113] claim that notable deviations from the normal percussion note may be recognized in the very earliest stages of the disease, yet the majority of authors hold to the opinion that this is not the case; or if slight peculiarities are thought to exist they are so obscure, both in quality and quantity, that deductions of diagnostic value cannot be safely drawn from them. To this latter opinion I must subscribe my assent. After a variable time has elapsed, however, and exudation material has begun to fill the air-cells and drive out the residual air which they had previously contained and the affected portion of lung has entered upon the stage of solidification, percussion gives information which is invaluable and beyond dispute. Juergensen,[114] Loomis,[115] and others say that no percussion changes can be discovered for at least twenty-four hours, but I cannot so limit the time, for we well know that hepatization begins at a variable period and proceeds with differing degrees of rapidity in different cases. I have been able to appreciate slight dullness and a change in the quality of the percussion note over the inflamed portion of lung, as compared with that from a corresponding point on the opposite and healthy side within three hours after the initial symptoms of the attack, and I have known the full measure of dullness to be attained within twelve hours.[116]

An obese lady, thirty years of age, was attacked suddenly with a severe chill at 1 P.M., Jan. 23, 1881. I saw her at 4 o'clock and made the following observations: She complained of headache, nausea and a severe pain in the left side of the chest, low down posteriorly, which was aggravated by cough, forced respiration and pressure. The pulse was 80, respirations 24 and temperature 101°. In my presence she expectorated a very viscid, rusty sputum. Over the lower lobe of the left lung posteriorly there was fine, dry crepitation and slight, but appreciable dullness. The malady pursued an ordinary course and convalescence was declared on the fourth day.

In pneumonic fever the pulmonary consolidation is more profound than in any other disease and the resulting dullness is therefore more marked than in any other[117]—except pleuritic effusion, and with this the differential diagnosis offers no great difficulties. When dullness is complete the pitch of the percussion note is raised, its insensity diminished, duration shortened, quality hardened and there is lost that peculiar, but indescribable quality normally belonging to it.

In speaking of dullness in these cases we refer, usually to comparative dullness. Absolute dullness is only met with when the bronchi are completely filled with fibrinous exudation.

In order that dullness may be brought out by percussion the hepatized area must be as extensive as the pleximeter and located near the surface. If it is smaller it is not possible to limit the percussion, and if deeply seated the dullness will be obscured by the resonance of the superimposed aërated normal lung tissue. To bring out diminished resonance from deeply seated consolidations strong percussion is necessary. Perry[118] thought himself able to locate the depth of a pulmonary consolidation by the amount of force necessary to bring out dullness.

Along the borders of the consolidation the percussion note is lowered in pitch, diminished in intensity, shortened in duration and hardened in quality,—not to any great extent, but yet perceptibly—whilst in the remainder of the unaffected parts of the lungs the pitch is raised, intensity increased, duration extended and quality abnormally clear and distinct, the result of increased vesicular tension and compensatory function.

In rare cases a tympanic note is elicited by percussing over hepatized parts. Thomas,[119] Juergensen[120] and some others hold that the percussion note has always a tympanitic quality, but this I have not been able to appreciate, except as above.[121] It may be due to the proximity of a gaseously distended stomach, a pulmonary cavity or an emphysematous patch. The significance of this sign is sometimes obscure.

In one of Juergensen's[122] cases there was hepatization of the lower lobe of the left lung. At the height of the sixth and seventh ribs, in the nipple line, there was heard an exquisit tympanic percussion note, which led to the diagnosis of a cavity. At the autopsy nothing but hepatization was found.

In percussing the upper portion of the chest in hepitization of the superior lobes care should be taken to not be misled by the resonance from the teacher and larger bronchi, giving a deceptive impression that the pulmonary tissue beneath is permeable to air. This resonance has a peculiar character and is much louder when the mouth is open than when it is closed. In examining this region the strokes should be only forcible enough to produce a clear note, and no more.

In certain cases, rare in my experience, but thought by some to be not uncommon, there is heard on percussion a peculiar, ringing, metalic sound, called amphoric resonance. It is a common sign of the presence of a cavity, but in these cases it is developed independently of cavities.[123] In the few cases in which I have observed this phenomenon there was lacking a plausible explanation of its causation.

Occasionally in the portion of lung immediately adjacent to the hepatized area there is developed by percussion a peculiar sound, a combination of hissing, rattling, blowing and roaring noises, to which Laennec gave the title of "cracked-pot" sound. It is sometimes heard when cavities are present in the hepatized area, but it may occur independently. It is oftenest heard over the apex, when the base is inflamed.[124] This sound I have seldom heard, and whenever elicited pulmonary cavities or dilated bronchi have always been present.

In some cases in which the subjects have previously had attacks of pleurisy or pneumonic fever, with thickening of the pleura, with non-absorption of the inflammatory products, there may be heard a dull, wooden percussion sound[125] which may be confounded with the *bruit de pot fêle*.

In percussing over hepatized lung tissue there is noticeable, besides the dullness, a decided resistance as if the finger, used as a pleximeter, were resting upon a solid body. This sense of resistance cannot be understandingly described, and can only be appreciated by practical experience. It was first noticed by Piorry;[126] is a very valuable sign, and I have known a physician who was partially deaf to rely largely upon it in making his very exact diagnoses in this disease.

"When the chest wall is subjected to a smart blow with the finger or the percussson hammer, an elliptical elevation of the surface may be frequently observed for a few minutes after the blows. This fact has been remarked by Mr. Lawson Tait, Dr. James Ross . . and others. . . Recently, too, a Russian author[127] has investigated the conditions under which the phenomenon is produced, showing that it may be made available, like other reflexes, for diagnostic and chemical purposes. In his observations he made use of a percussion hammer furnished with a spring and index by means of which the force of such blows was registered. The pectoral regions of 100 presumably healthy young men

were examined. The lowest force required to produce the phenomenon . . was 400 grams and the highest 2,000 grams. . . Still lower figures were obtained on the examination of diseased persons. . . In all chest cases it was noticed that the loco tetanus was more easily produced on the side where the disease was situated, or on that where it was the more extensive; thus in a case of dry pleurisy of the right side, the figures obtained were, for the sound side, 580 grams, and for the diseased side 150 grams."[128]

This phenomenon I have observed in a number of cases of pneumonic fever. It was oftenest noticed in the earliest stages of the disease, and was produced most easily in those cases accompanied by considerable nervous excitement and pain. It was always produced with the least force upon the affected side. In many of my cases the muscular contraction was vibratile, and not tonic, as seems to have been the experience of Philipovich.

In practicing percussion I prefer using a well balanced hammer[129] and the finger as a pleximeter.[130] Percussion may be made upon the bared skin, or the patient may be permitted to wear a thin, soft and neatly fitting garment. If he is able to sit erect this position is preferable, although not essential. If unable to sit he should at first lie upon his back whilst the front of the chest is being examined, afterwards turning well forward upon either side whilst the opposite one and the back are being investigated. In either case the muscles should have the same tension on each side. Beginning at the thoracic apex, percussion should be carefully made over corresponding points on either side, proceeding downwards until every part of the chest has been gone over. If abnormal sounds are evoked at any particular spot percussion should be carefully made around it until the boundaries are accurately defined. In examining a patient supposed to be in the earliest stages of pneumonic fever special attention should be directed to the infra-axillary and infra-scapular regions, for it is in these localities that the earliest signs will be noticeable in the majority of instances.[131]

The cushion of the middle finger of the left hand should be placed upon the spot to be percussed, and lightly struck with the hammer—only force enough being used, in the first instance, to bring out a clear sound in the normal parts. The force may be afterwards increased or diminished as may be necessary for the purpose of eliciting sounds from the deeper or more superficial parts, or as the chest walls are thicker or thinner. In the case of children and emaciated persons the stroke should be very light indeed.

The patient should be directed to breathe regularly and easily, because when this is done the pitch of the sound is practically the same during inspiration and expiration. If great precision is required the stroke should be made at similar periods of the respiratory act, probably at the end of inspiration. The mouth should at first be closed, but the patient may be directed to open it widely in order to bring out certain sounds. In this connection a large bell[132] attached to the stethoscope and held about four inches from the patient's open mouth will be found very valuable.

The normal percussion note varies so widely in different persons as to defy intelligent analysis, and the observer should carefully avoid adopting any arbitrary or ideal quality of sound as the normal one for all persons, and regarding any deviations therefrom as evidences of disease. On the contrary he should endeavor by careful observation to form a standard for the individual, and by that alone should the sounds arising from percussing his chest be gauged.[133]

Percussion may be supplemented by phonometry.[134] In pneumonic fever if a tuning fork[135] be placed, whilst vibrating, over the hepatized lung, the sound will be much weaker than when it is placed over healthy parts. Should a cavity be present the note is rendered remarkably clear and strong.

Although scientifically very interesting, yet phonometry is of very little practical importance, because percussion alone gives all the information revealed by the tuning fork and much more besides. In making use of this method particular attention should be given to striking the tuning fork with exactly the same force each time it is applied. This is best accomplished by employing those supplied with a spring hammer.[136]

Succussion sounds depend upon the shaking together of the liquid and gaseous contents of large cavities and do not belong properly to pneumonic fever, save rarely in some of its sequelæ, *e. g.*, hydro- and pyo-pneumothorax. They may, however, be sometimes heard in this disease, as when the stomach contains fluids and gases, and lead to erroneous conclusions.[137]

Auscultation.—There has always been a diversity of opinion amongst authors as to the earliest variation from the normal respiratory murmur recognizable by the ear in pneumonic fever. This is easily understood when we remember how seldom it happens that we have an opportunity of seeing such cases in their incipiency, and as a consequence, how meager must be the data upon which writers have based their opinions. Most observers since the days of Laennec[138] have regarded the crepitant râle as the earliest recognizable auscultatory sign in this disease.[139] Others are of the opinion that the crepitant râle is preceded by other signs, *e .g.*, a harsher, rougher and louder sound than normal—puerile respiration[140]—or a diminution and weakening, characterized by superficiality and simple diminution of intensity of the respiratory murmur.[141]

I have had the opportunity to examine a limited number of cases within a very short time after the inception of the disease, and in every instance there was noticed a weakening of the respiratory murmur. It was diminished in intensity, rendered finer and softer and sometimes so near absent as to give rise to a doubt whether there was present sound or silence. With all this, however, there was conveyed to the ear a sense of nearness of the sound—as if it were in the ear instead of at the end of the stethoscope. This was noticeable only during the chill, or for a very short time thereafter, being very quickly replaced by puerile respiration and the crepitant râle.

After a variable time the crepitant râle appears and can be heard so long as any air enters the air-cells. This is one of the two most important auscultatory signs of the disease, is in a large manner pathognomonic and great reliance should be placed upon its presence.

As illustrating the great value of this sign reference may be made to the case reported by Routh.[142] In this case the crepitant râle was distinctly heard, although there was no dullness on percussion. On this account it was supposed to be a case of capillary bronchitis, until the autopsy revealed hepatization and the true nature of the case. The resonance was due to an emphysematous condition of the surrounding lung tissue.

When in perfection the crepitant râle occurs in trains or puffs of similar short, dry, crackling sounds rapidly succeeding each other and conveying the idea of an immense number of minute explossions. It is confined, except in rare instances, to inspiration and is but heard at the termination of the act. It is occasionally limited to a single puff at the close of inspiration.[143] The nearer to the surface the diseased action is located the clearer and more distinctly will the sounds be conveyed to the ear. With experience a very axact estimate can be made as to the depth of the inflamed tissues by the apparent distance from which the morbid sounds seem to come.

Coming on during the first hours of the attack this râle is persistent and unchangable until it is superseded by other phenomena. In case the breathing is very shallow it may not be heard, but in these cases it can usually be brought out by the patient coughing or inspiring deeply.[144]

It has been said that both the crepitant râle and the râle

redux, may be made to disappear after a few deep inspirations, but this has never occurred in my experience.

Williams[145] in comparing the sound to that produced by rubbing a lock of hair between the fingers and thumb, slowly and firmly, close to the ear, made a most happy comparison, for the sound produced is almost identical with that of the crepitant râle as it proceeds from the lungs in the first stage of pneumonic fever. It has also been compared to the crackling of wet powder,[146] of salt thrown upon a heated surface,[147] of tissue paper when squeezed in the hand,[148] etc.

"A piece of quite dry tissue paper pressed up into a ball and squeezed in the hand with a variable amount of force, so regulated as to give by practice a finer and finer crackling sound, will, at last represent exactly the *character* of fine crepitation. Alternate pressure and relaxation by the hand, in time with the time of respiration will even convey something of the general effect that the ear receives when listening at the chest itself, although in *fineness* it hardly comes up to the minute bronchial crepitus."

With this sound, as with all the attributes of living matter, it must be remembered that it is not amenable to rigid and unvarying laws, but that it is variable in presence, quantity and quality and is possessed of only general characteristics.

Various theories have been advanced as to the cause and seat of the crepitant râle. Some hold that it is caused by bursting of a vast number of minute bubbles in the air-cells or finest bronchioles,[149] or to the passage of air through fluid in the same situation.[150] Some consider the mere contact of air with fluid in this place sufficient to produce it.[151] Others that the forcible separation of the walls of the air-cells and bronchioles, agglutinated by viscid fluid, is the cause.[152] Walshe[163] and his followers believe that the sound originates in the pulmonary parenchyma and is due to the expansion of the walls of the air-vesicles, infiltrated with inflammatory products. Leaming,[154] Cammann,[155] and others,[156] hold that this sound does not arise within the lungs, but is caused by pleuritic creaking. Pressure of the air upon the walls of the air-sacs is considered the cause by Sturges.[157] Gerhard,[158] Williams[159] and others think that the sound originates in the finest bronchi only.

There are some physiological facts which do not appear to have been appreciated by some of the architects of the various theories refered to and which prevent our acceptance of them. For example; the air entering the alveoli does not rush in and out with each respiration, but the air in them is changed by a diffusion of gasses. The vessicles do not collapse with expiration—nine-tenths of the air in the lungs at the end of an inspiration remains in the vesicles and bronchi during expiration.

Coming on during the stage of engorgement, the crepitant râle continues until hepatization is completed, after which it is no longer heard. This statement would be strictly true if the inflammatory process did not spread and if it pursued an equally rapid course in all parts of the affected lung; but this is not often the case. Practically, every grade of inflammation is present at the same time, and in most cases, in some part—generally on the outskirts of the affected portion of lung—crepitant râles may be heard the greater course of the disease.

The crepitant râle is encountered in some other pulmonary diseases,[160] *e.g.*, œdema, apoplexy, bronchitis, phthisis, syphilis, etc.—besides pneumonic fever, but, taken in connection with the ordinary rational symptoms of the malady, it is highly diagnostic, if not pathognomonic.

Janeway[161] asserts that he has met with a few cases in which the crepitant râle was heard in the initiatory stage of pleurisy—due, according to the observer, to a separation of the sticky surfaces of the pleura. I am inclined to doubt the correctness of this observation, and believe that his cases were associated with a superficial, perhaps transient nflammation of the pulmonary parenchyma. I consider this a more satisfactory explanation of the phenomenon than that advanced by Janeway, which presupposes the formation of a vacuüm or the presence of air or gas in the pleural cavity.

A fine, dry crepitation, heard, during deep inspiration only, at the base of the lungs, behind, may he met with in some persons—children especially[162]—with perfectly healthy lungs, and may lead to error if the fact is lost sight of.[163]

The crepitant râle may be lacking[164] because of an entire absence of all respiratory sounds in some cases, and this, too, independent of bronchial obstruction,[165] although this is usually the cause.[166] It may be continuous or intermittent. In the former it is due to obstruction of the bronchi or to the fact that the portion of lung affected is not supplied with moderately large bronchi, and in the latter to temporary obstruction of the bronchi.[167]

After hepatization is complete bronchial respiration becomes the distinctive local auscultatory sign of pneumonic fever.[168] This usually appears in about twenty-four hours, although I have met with it as early as eight hours after the initial chill.[169] This is a hard, rough sound, like that caused by blowing through a tube, and is heard at first only on expiration,[170] but very soon during both inspiration and expiration and often most distinctly during the first named act. The expiratory sound is higher pitched and more intense than normal, and is prolonged so as to equal or even exceed in length that of inspiration.[171] It is heard in consolidation of lung tissue from any cause, but it is more distinct in this disease than in any other, for the reason that in it the consolidation attains its greatest development. The larger and more numerous the bronchi traversing the affected part of the lung, the more pronounced will be the sound. It is, therefore, more marked in the upper than in the lower lobe. Indeed when the root of the lung is affected the sound may simulate cavernous respiration.[172] When only a thin, superficial part of the lung, or one free from large bronchi, is inflamed, the resulting bronchial breathing is thin and ribbon-like[173] and lacks in sonorousness. As the case progresess toward resolution the bronchial breathing takes on a harsher, but less tubular character; gradually becomes moister and finally loses its tubularity. In rare cases diffuse blowing takes the place of the bronchial breathing, and in still rarer cases there are no sounds whatever to be heard.

The theory of bronchial blowing and respiration which has been most extensively adopted is that it is the natural bronchial breathing transmitted with extraordinary distinctness through the condensed and highly conducting lung tissue; and that the blowing sound has its origin in the smaller, and the tubular sound in the larger bronchi.[174] Some writers object to this explanation on the ground that the air contained in the bronchi of the affected part is stagnant, or nearly so, and reason that the sound originates in the trachea and is conducted to the ear through the column of air and the condensed pulmonary tissue.

Eller[175] has advocated some novel views regarding the origin of these sounds. He claims that the passage of air through the bronchi never originates such sounds, and that if care be exercised, when a full and rapid inspiration is practiced, that no sound is generated in the upper air passages, no tubular breathing will be noticeable over the trachea or larger bronchi. If, however, sounds are produced in the parts named they are clearly heard over the trachea and larger bronchi, and are identical with the so-called bronchial respiration. In his experiments "a patient with catarrhal pneumonia of the right apex, in whom there was the so-called bronchial respiration, was requested to inflate

the chest and then remain perfectly immovable. At the moment when the chest was at rest, air was forced through a glass tube against the soft palate, producing a blowing sound which was heard as bronchial breathing by a person whose ear was applied to the chest. If during respiration no sound was caused by the passage of air through the parts above the trachea, none was heard by the ear applied to the chest." Similar experiments in pleurisy and pneumonic fever, both in man[176] and upon the horse,[177] gave similar results.[178]

In health the two acts of respiration—inspiration and expiration—follow each other so closely as to convey to the ear the idea of a continuous movement, but in all the varieties of bronchial respiration there is a distinctly appreciable pause between them.[179] In some cases the inspiratory sound is of an interrupted character, in which the different divisions are of unequal length. In my own experience this has usually been found in connection with severe pain on inspiration.

In listening at the chests of pneumonic patients there is often heard moist râles, due to an excessive amount of fluid in the bronchi, and various other râles and murmurs of indeterminate origin and no particular significance. Some of these sounds are decidedly musical in character,[180] Some of them may be dissipated by coughing and others remain permanently.

In almost every case there is exaggerated respiration in the portion of lung adjacent to the hepatized area,[181] and this is the more noticeable the nearer the ear approaches the solidified parts. Whenever such exaggerated breathing is encountered we may rest assured that patient search, or time, will reveal hepatization in the neighborhood.[182] This may, in some instances, be the only auscultatory evidence obtainable of consoldiation, especially when it is centraly located, and, if the rational symptoms are sufficiently pronounced, it is usually ample evidence for the localization of the inflammatory process.[183]

Boling[184] has noticed in three cases of apical hepatization, and erroneously presumed its presence in all cases of pneumonic fever, a peculiar, fine mucous or crepitant ronchus seated in the larger bronchi, but appearing to come from the trachea, audable at a distance of two or three feet, and persistent after efforts at expectoration,and which, although very annoying to the listener, is unnoticed by the patient. I have noticed this phenomenon in several cases, basic as well as apical. The sound evidently originates above the trachea, and not in the bronchi. It is often the precursor of the tracheal râle, and of death. The sign is one of evil import and indicates a failure of reflex nervous sensibillity.[185]

Vocal resonance may be for a time weaker than normal over the solidified lung, probably due to temporary obstruction of a large bronchus. It may be permanent when the pleura is thickly covered with lymph.[186] It bears no necessary relation to vocal fremitus. Increased bronchophony, however, is the rule.[187] The increase in intensity is usually but slight, although it may be marked. Its limits may be sharply or indistinctly defined. It is best heard posteriorly, and it may possess an ordinary character, or it may have a metalic, sniffling, tremulous or bleating quality. It is simply the laryngeal voice and echo, conducted with more than ordinary clearness and intensity by the solidified lung to the ear of the listener.[188] It is heard most distinctly in the case of patients having a bass voice, and much less clearly when the voice is high-pitched.

Ægophony sometimes exists in connection with bronchophony, and the one may pass into the other. It is heard only near the inferior angle of the scapula and on a line from that point toward the nipple, although seldom extending so far. It is oftenest heard in persons having shrill, cracked and quavering voice—*e.g.*, in aged females. Bronchophony can often be changed to ægophony when the patient speaks "through the nose."[189] It has been supposed to be due to a thin layer of fluid separating the lung from the chest-wall[190]—interrupting the larger and coarser vocal sounds, but allowing the passage of the more subtle harmonics.[191] Davies[192] and other, however, hold that it is caused by a plug of tenacious mucus in a bronchus which acts as a vibrating tongue.

Cristophs[193] has described a sound midway between bronchophony and ægophony, which he has called ægony. It is described as being like the first half of the sound of ægophony, but lacking the latter half. This sound, if recognized, is merely a curiosity and of no practical importance.

Whispering pectoriloquy may also be heard in some rare cases of pneumonic fever.[194]

Hourmann[195] has called attention to the phenomenon of autophony in pneumonic hepatization. If the observer applies his ear lightly to the chest, over the diseased lung, and speaks in a natural tone, his voice seems to be returned to him from within the patient's chest.

In almost every case of pneumonic fever the pleura is inflamed to a greater or less extent, and in some of these there may be heard the auscultatory signs of this condition. The principal one of these is the well-known friction sound, which may be described as having a grazing, rubbing, grating or creaking character. It is often developed or intensified by the pressure of the stethoscope. It may be heard in the very earliest stages, but is often recognizable only during resolution. In case the lower lobes are the parts inflamed it can be best and oftenest heard in the axillary line.[196] The finer and more delicate sounds are heard in those parts of the chest having but little mobility, whilst the coarser and rougher ones are heard in those which move more freely. These sounds are heard in this disease less frequently than in primary and uncomplicated pleurisy.

Creaking sounds, resembling pleural friction, may be heard, at times, about the costal cartilages in aged persons, due to interstitial dryness of the cartilages.

From the earliest days of auscultation it has been recognized that the physical signs of pneumonic fever sometimes appear late in the history of the case—are in fact retarded. In these cases the general and local symptoms point with more or less clearness to the existence of the disease, yet we are unable to demonstrate the presence of hepatization by means of percussion or auscultation, and the attack progresses from five to eleven days before the appearance of appreciable physical signs.[197] This may be due either to a late localization of the morbid process[198] or to its being at first, centrally situated.[199]

Not only may the physical signs be long held in abeyance in this disease, but they may remain altogether absent.[200] Fitz[201] records a case in which careful examinations during life failed to afford any auscultatory evidence of pneumonic fever, yet the autopsy revealed hepatization of the bases of both lungs.

The cause of the absence of these sounds is often obscure and uncertain.[202] It has been thought due, in aged persons especially, to the presence of emphysema.[203] When supposed to be absent I have occasionally caused them to appear by directing the patient to cough.

Failure to recognize the possibillity of the absence of auscultatory signs in pneumonic fever may lead to dangerous

or even fatal results. In Wintrich's case[204] pleuritic effusion was thought to be present and paracentesis was attempted.[205] The patient died, and at the autopsy the lung was found hepatized and the bronchial tubes filled with fibrinous casts.[206]

The physical signs of pneumonic fever persist from a few hours to several weeks, and usually disappear first from those portions of the lung last involved.

With the beginning of resolution there is heard a kind of crepation called "crepitation redux." This sound, unlike the fine, dry crepitation belonging to the earlier stages of the disease, is a moist one, and is heard during both inspiration and expiration. It may be described as a mixture of dry crepitant, subcrepitant and mucous râles.[207] It continues more or less prominently, until resolution is fully completed,[208] and is due, according to Sturges,[209] to the forcible re-opening of collapsed or obstructed bronchioles by by the ingoing current of air. Although almost universally present, yet in some cases convalescence may be perfectly completed without this sign appearing.[210] This may be due to bronchial obstruction,[211] removable by coughing.

After the disappearance of the râle redux and when the patient considers himself entirely recovered, some very fine crepitation may yet be heard, posteriorly, in some persons. This depends upon an œdematous conditions of the pulmonary tissues in this situation.[212]

Auscultation of the chest, throughout the entire course of the disease, is of the utmost importance to the diagnostician; revealing to him many signs, pathognomonic, distinctive and confirmatory, without which he would often be tossing about upon a boundless sea of uncertainty and doubt.

In practicing this art I prefer for many and important reasons, to use a flexible, binaural stethoscope.[213] The patient should lie or sit in an easy, unconstrained manner, with the thoracic muscles relaxed and the surface bared. All friction with the instrument should be avoided, and if the chest is covered with hairs they must be wetted. The cup of the stethoscope must be accurately applied throughout its entire circumference and with only force enough to keep it in place. The patient should breathe regularly and in an ordinary manner, until requested to inspire deeply. The examination should be symmetrical and thorough, and unless detrimental to the patient, it should be repeated once or twice daily. No pains should be spared by the physician in becoming an accomplished auscultator, for upon this will often depend his reputation and the patient's safety.[214]

The diagnosis of pneumonic fever can, and sometimes must be made upon the general and local symptoms, independent of the evidence afforded by percussion and auscultation. This is especially true in the early stages of the attack, or when the physical signs are absent or delayed. Therefore, as important as are these aids to diagnosis the attention of the practitioner ought not be concentrated upon them to the exclusion of other phenomena of primary and vital importance to a complete understanding of the case.

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46 Comparatively speaking.
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123 For further information see Bamberger, Deutsche Klinik, 1850, S. 118;—Baümler, Op. cit. S. 145;—Lépine, Pneumonie, Wien, 1883, S. 48;—Skoda, Op. cit., S. 20;—Stern, Virchow's Jahresb, 1871, S. 118;—Walshe, Op. cit., p. 26;—Wegelin, Correspondenzb. f. schweiz. Aerzte., 1876;—Wintrich, Op. cit.;—et al.

124 See also Fox, Op. cit., p. 168;—Grisolle, Traitè de la Pneumonie, Paris, 1841;—Guttmann, Phys. Diag., N. Y., 1880;—Laennec, Traitè de l'Auscult. Mediate, Paris, 1819;—Lépine, Op. cit., S. 48;—Juergensen, Op. cit.;—Skoda, Op. cit., S. 20;—Sturges, Op. cit., p. 49;—Vergely, Bordeaux Méd., 1875;—Walshe, Op. cit., p. 75;—Swett, Disease of the Chest, N. Y., 1856;—Wintrich, Op. cit.;—et al.

126 See also Skoda, Op. cit., S. 22.

127 Philipovich, of Odessa. See Jour. Am. Med. Assoc., February 5, 1887, p. 152.

128 See also Finlayson, Phys. Diag.;—Graves and Stokes, Dublin Hospt. Rpts., 1830, Vol. v, p. 70;—Hudson, N. Y. Med. Rec., May 9, 1888, p. 509;—Janeway, Ibid., May 16, 1885, p. 552;—Page, Ibid., p. 552;—Tait, Dublin Jour. Med. Sci., 1871, Vol. lii, p. 316.

129 The hammer employed is a sphere of bell-metal, weighing one ounce, having a circular groove fitted with a rubber ring. The handle and is eight inches long. See Truax's Surgical Catalogue, Chicago, 1887, p. 314;—Vernon, London Lancet, N. Y., 1858, Vol. i, p. 376.

130 Soft rubber makes an allowable substitute.

131 See also Hudson, N. Y. Med. Rec., May 9, 1885, p. 505.

132 See Bianchi, Rivista Clinica, 1885;—Bonfigli, Italian translation of Guttmann's Phys. Diag., 1873;—Cammann, N. Y. Med. and Surg. Jour., July, 1840;—Et al.

133 In examining patients reclining upon metallic spring mattresses care should be token not to confound the metallic notes therefrom with any sounds emanating from within the chest.

134 Examining the chest with the tuning fork.

135 Preferably sounding "A."

136 See Guttmann, Berliner K. Wochenschr., 1873, Nr. 7.

137 See, for further information, Auenbrügger, Op. cit.;— Janeway, Jour. Am. Med. Assoc., August 2, 1884, p. 118;—Lanfranc, Chirurg.;—Lépine, Pneumonie, Wien., 1883;—Lewinski, Berliner K. Wochenschr., 1884, S. 45;—Raimondi, Rivista Clinica, 1883, Nos. 7 et 8;—Et al.

138 Traité de l'Auscult. Mediate, Paris, 1819.

139 See Drake, On Fevers, Phila., 1854, p. 858;—Flint, Prac. Med., Phila., 1868, p. 182;—Grisolle, Traité de la Pneumonie, Paris, 1841;—Skoda, Auskultation u. Perkussion, Wien., 1843, S. 249;—Sturges, Pneumonia, London, 1876, p. 46;—Trousseau, Clin. Med., Phila., 1873, Vol. i, p. 662;—Wintrich, Lungenentzündung, Erlangen, 1843, S. 12;—Zehentmayer, Auscult. u. Percuss., Wien., 1843, S. 232;—Et al.

140 Caton, London Lancet, 1884, Vol. ii, p, 136;—Copland, Med. Dic., N. Y., 1855, Vol. ii, p. 884;—Fox, Reynolds' Syst. Med., Phila., 1880, Vol. ii, p. 167;—Gerhard. Dis. Chest, Phila., 1860, p. 188;—Griesinger, Virchow's Handb. d. Spec. Path. u. Therap., Bd. ii, S. 43;—Heiss, Inaug. Diss., München, 1852, S. 7; Hermann, Lungenentzündung, Würzb., 1880, S. 11;—Juergensen, Ziemssen s Handb. Spec. Path. u. Therap., Bd. v, Leipzig, 1877, S. 38;—Lépine, Pneumonie, Wien., 1883, S. 49;—Niemeyer, Pneumonie, Stuttgart, 1876, S. 6;—Smith, Edinb. Med. and Surg. Jour., November, 1866—Thieine, Inaug. Diss., Jena, 1865;—Waters, London Lancet, 1865, Vol. i, p. 147;—Walshe, Dis. Lungs, Phila., 1860, p. 280;—Wunderlich, Spec. Path. u. Therap.;—Folkmann, Inaug. Diss., Erlangen, 1847, S. 24;—Et al.

141 See Green, Quain's Dic. Med., N. Y., 1884, p. 878.

142 London Lancet, N. Y., 1855, Vol. xi, p. 148.

143 See Bettleheim, Lépines Pneumonie, Wein, 1883; S. 50;—Sturges, Pneumonia, London, 1876, p. 245.

144 See Sturges, Op. cit., p. 49;—Ziemssen, Pleuritis and Pneumonie, Berlin, 1862, S. 242.

145 Diseases of the Chest, London, 1835.

146 Gerhard, Diseases of the Chest, Phila., 1860, p. 189.

147 Andral, Med. Clinic, Phila., 1843, Vol. xi, p. 187;—Watson, Prac. Phys., Phila., 1845, p. 576.

148 Sturges, Op. cit., p. 45.

149 See Andral, Op. cit., p. 188;—Clark, N. Y. Med. Gaz., 1880—Watson, Op. cit., p. 576;—Wintrich, Inaug. Diss., Erlangen, 1843, S. 11;—et al.

150 Blaekiston Dis. Chest.;—Satterthwaite, Phila. Med, News, Jan. 5, 1889.

151 Rindfleish, Path. Histol., Phila., 1872, p 424;—Rokitansky, Path. Anat., Phil., 1856, Vol. iv, p. 68;—et al.

152 Chomal, Pneumonie, Leipzig, 1841, S. 105;—Flint, Prac. Med., Phila., 1868;—Guttmann, Phys. Diag., 1880, p. 111;—Green, Quain's Dic. Med., p. 879;—Juergensen, Op. cit., S. 100;—Niemeyer, Percus. u Auscult., Erlangen, 1873, S. 87;—Racibor sky, Precis. du Diag,, p. 740;—Spittal, Auscultation, 1830;—et al.

153 Op. cit., p. 112 and London Lancet, May 19, 1849.

154 N. Y. Med. Rec., May 25, 1878, and N. Y. Med. Gaz., Feb. 7, 1880.

155 N. Y. Med. Jour., July 7, 1884, p. 8.

156 Burt, Phys. Expl. Chest, N. Y., 1889, p. 73;—Jackson, Chicago Med. Stand., Aug. 1889, p. 40;—et al.

157 Op. cit., p. 243.

158 Diseases of the Chest, Phila., 1860, p. 190.

159 Op. cit.

160 See Heiss, Inaug. Diss., München, 1887, S. 7;—Jackson, Op. cit., p. 40;—Satterthwaite, Op. cit., p. 5;—Schuyler, N. Y. Med. Jour., October 13, 1883, p. 400;—Sturges, Op. cit., p. 47;—Et al.

161 Jour. Am. Med. Assoc., August 2, 1884, p. 118.

162 Winters (N. Y. Med. Rec., February 21, 1885, p. 217) asserts that in pneumonic fever as it effects the infant the crepitant râle is rarely met with. This has certainly not been my experience.

163 See Walshe, Op. cit., p. 112.

164 See Fox, Reynolds' Syst. Med., Phila., 1880, Vol. ii, p. 167.

165 See Alison, Edinb. Med. and Surg. Jour, August, 1850;—Andral, Op. cit., et Med.-Chir. Rev., 1826, p. 514;—Eberle, Prac. Med., Phila., 1831, Vol. i, p. 288;—Fox, Op. cit., p. 168;—Laennec, Dis. Chest, N. Y., 1830;—Walshe, Op. cit., p. 94;—et al.

166 Kennedy, Dublin Med. Press, April 24, 1850.

167 See Phila. Med. News and Abst., August, 1881, p. 482.

168 See Andral, Op. cit., p. 188;—Laennec, Op. cit., p. 214, Fox,—Op. cit., p. 163,—Traube, Ann. d. Charité, Bd. i, S. 286, and others, claim that bronchial breathing may sometimes be heard during the stage of engorgement. See the experiments or Aufrect, Deutsche Arch. f. K. Med.

169 Fox, Op. cit., p. 170, has heard it within twelve hours. Loomis (N. Y. Med. Jour., February 7, 1885) doubts whether it can appear earlier than this, whilst Starr (Ibid., p. 166) thinks it can. See also Grisolle, Traité de la Pneumonie, p. 295;—Sturges, Op. cit., p. 69;—Et al.

170 See Fox, Op. cit., p. 169;—et al.

171 See Loomis, Phys. Diag., N. Y., 1878. p. 40;—Satterthwaite (Phila. Med. News, January 5, 1889, p. 5) says that prolonged expiration precedes tubular breathing. See also Jackson, Memoirs, Boston, 1855;—Cowan's Louis on Phthisis, Boston, 1836, p. 203.

172 Walshe, Op. cit., p. 99.

173 Chomel, Op. cit., S. 112;—Gerhard, Op. cit., p. 267;—Grisolle, Jour. Hebdom. de Méd., 1839, T. iii, p. 81.

174 See Andral, Op. cit., p. 242;—Chomel, Pneumonie, Leipzig, 1841, S. 111;—Copland, Med. Dic., N. Y., 1855, Vol. i, p. 201;—Elliottson, Prac. Med., Phila., 1844, p. 753;—Gerhard, Dis. Chest, Phila., 1860, p. 61;—Juergensen, Op. cit., S. 104;—Laennec, Op. cit., p. 34;—Lawson, Consumption, Cincinnati, 1861, p. 350;—Sturges, Op. cit., p. 49;—Swett, Dis. Chest, N. Y., 1856, p. 101;—Walshe, Dis. Lungs, p. 100;—Et al.

175 Boston Med. and Surg. Jour., July 5, 1877, p. 1.

176 Ellis, Op. cit, p. 1;—Powell, Quain's Med. Dic., N. Y., 1884, p. 1188.

177 See Bondet et Chauveau, Rev. Mensuelle, 1877.

178 For further information on these and other views see Baginsky, Pneumonie u. Pleuritis, Tüb., 1880, S. 48;—Barth et Roger, Traité de l'Auscultation, Paris, 1841;—Bouillaud, Clin. Méd., Paris, 1837, T. iii;—Clark, N. Y. Med. Gaz., 1886;—Dittmar, Gaz. Méd de Strassburg, 1865;—Fonssagrives, L'Union Méd., 1857;—Günsburg, Klinik d. Kreislaufs u

Athmungsorgäne, Breslau, 1857;—Guttmann, Klin. Untersuchungs Methodes, Berlin, 1884, S. 139;—Heiss, Inaug. Diss., München, 1857, S. 7;—Flint, Respiratory Organs, Phila., 1866, p. 172;—Grisolle, Traité de la Pneumonie, Paris, 1864;—Jour. Am. Med. Assoc., April 11, 1885, p. 39;—Lépine, Pneumonie, Wien., 1883;—Niemeyer, Pneumonie, Stuttgart, 1876, S. 9;—Oppolzer, Vorlesungen, Erlangen, 1870;—Philipp, Kasper's Wochenschr., February 1, 1840;—Skoda, Perkussion u. Auskultation, Wien., 1843, S. 106; Sweigger, Virchow's Arch., Bd. ii, S. 258;—Todd, Med. Times and Gaz., May 15, 1852, p. 483;—Watson, Prac. Phys., Phila., 1845, p. 538;—Williams, Cyclp. Prac. Med., London, Vol. iii, p. 406;—Ziemssen, Pleuritis u. Pneumonie, Berlin, 1862;—Et al.

179 See Andral, Clin. Méd., Paris, T. iv, p. 269;—Fournet, Rech. Clin. sur l'Auscultation, Paris, 1839;—Jackson, Mém. de la Soc. Méd. l'Obsv., T. i, p. 14;—Louis, Clin. Méd.;—Piorry, Precis du Diag., p. 465;—Thompson, London Lancet, N. Y., 1852, Vol. i, p. 7;—Et al.

180 See also Cousins, London Lancet, N. Y., 1862, Vol. i, p. 192.

181 Swett, Dis. Chest, p. 90, says that the respiratory murmur in this vicinity is weakened.

182 See Andral, Op. cit., p. 189.

183 Fournet, Op. cit., has noticed that this exaggeration of the respiratory murmur sometimes persists for a long time after convalescence, but this is not confirmed by my experience.

184 Am. Jour. Med. Sci., July, 1847.

185 Respiratory sounds may be recorded and reproduced by the phonograph. See Bleyer, N. Y. Med. Rec., Nov. 17, 1888, p. 586;—Porter, St. Louis Med. Rec., Nov. 1888.

186 See Sturges, Op. cit., p. 48.

186 See Fox, Op. cit., p. 168;—et al.

188 See Walshe, Op. cit., p. 137;—et al.

189 See Copeland, Op. cit., Vol. i, p. 204.

190 See Garland, Pneumono-Dynamics, N. Y., 1878.

191 See Stone, St. Thomas' Hospt. Repts., Vol. xi, 1871. See also Stone and Grabham, London Lancet, 1867, Vol. i, p. 114.

192 Physical Diagnosis, London, 1851, p. 100.

193 Gaz. Méd de Paris, Aug. 21, 1847.

194 See Fox, Op. cit., p. 169;—Piory, Op. cit., p. 480;—Walshe, Op. cit., p. 126.

195 Jour. l'Experience, T. iv.

196 See Juergensen, Op. cit., S. 104. I consider this a very important fact to bear in remembrance.

197 See Andeal, Op. cit.;—Clark, London Lancet, N. Y., 1881, Vol. i, p. 253;—Koettnitz, Inaug. Dissert., Halle, 1882, S. 17;—Hall, Lond. Lancet, N. Y., 1881, Vol. i, p. 253;—Scheef, Inaug. Diss., Tübingen, 1882, S. 28;—Taylor, London Lancet, N. Y., 1881, Vol. i, p. 258;—Tyson, Ibid.;—et al.

198 See a former page of this treatise.

199 Haw (London Lancet, 1887, Vol. ii, p. 911) has shown that the physical signs may appear late, even when the inflammation is superficial.

200 Syers, London Lancet, 1890, Vol. i, p. 791;—et al.

201 Boston Med. and Surg. Jour., Feb. 17, 1876, p. 192.

202 See Fox, Op. cit., p. 169.

203 Goodhart, London Lancet, N. Y., 1881, Vol. i, p. 253.

204 Virchow's Handb. d. Spec. Path. u. Therap., Erlangen, 1865, Bd. v, S. 299;—see also his Inaug. Dissert., Erlangen, 1843, S. 10 u. 25.

205 When a hypodermic needle is thrust into hepatized lung tissue blood flows, which is not the case in the healthy state. See Lépine, Jour. Am. Med. Assoc., Nov. 28, 1885, p. 600.

206 In one case bronchial râles, increased vocal resonance and tubular breathing were heard, with discovery post-mortem, of some congestion but no consolidation, U. S. Marine Hospt. Rpts., 1889, p. 366;—See also Crisp, London Lancet, N. Y., 1856, Vol. ii, p. 352.

207 See Clark, N. Y. Med. Gaz., 1880.

208 Juergensen, Op. cit., S. 102, has heard it eighteen days after crisis.

209 Op. cit., p. 46.

210 See Ranking, Prov. Med. and Surg. Jour., May 17, 1848, and others.

211 Cayol, Rev. Méd., Mai., 1829;—Thesè de Paris, 1831, No. 244.

212 See Clark, N. Y. Med. Gaz., 1880.

213 By preference Dennison's. See Truax's Surg. Catalogue, Chicago, 1887, p. 318;—Haupt, Arzth. Intelligenzb., 1884;—Paton (Jour. Am. Med. Asso., Aug. 11, 1883, p. 140) and others prefer a solid "hearing staff." See also Pollock, London Lancet, N. Y., 1856, Vol. ii, p. 24.

214 For further information consult Bean, Arch. Gen. de Méd., 1834;—Blaekiston, Diseases of the Chest;—Janeway, N. Y. Med. Rec., Jan. 9, 1886, p. 51;—Laennec, Traitè de L'Auscultation Médiate, Paris, 1819;—Leonard, London Lancet, N. Y., 1854, Vol. i, p. 224;—Salter, London Lancet, 1861, Vol. i, p. 57;—Skoda, Op. cit.;—Skerritt, Jour. Am. Med. Asso., Vol. iv, p. 153;—Spittal, Edinb. Med. and Surg. Jour., Vol. xii;—Van Santvoord, N. Y. Med. Rec., Jan. 9, 1886, p. 51;—Walshe, Op. cit.;—Winters, N. Y. Med. Rec., Feb. 21, 1885, p. 217;—Wintrich, Pneumonie, Erlangen, 1848;—Eve, N. Y. Med. Rec., Apr. 18, 1885, p. 430;—et al.

AMERICAN MEDICAL ASSOCIATION.

SECTION OF DERMATOLOGY AND SYPHILOGRAPHY.

FIRST SESSION, JUNE 7, 1892.

L. DUNCAN BULKLEY, CHAIRMAN.

Names of those registering at the Sessions of the Section on Dermatology and Syphilography, American Medical Association, Detroit, June, 1892:—J. E. Atkinson, Baltimore, Md.; A. P. Biddle, Detroit, Mich.; L. W. Bliss, Saginaw, Mich.; W. F. Breakey, Ann Arbor, Mich.; L. Duncan Bulkley, New York, N. Y.; A. E. Carrier, Detroit, Mich.; A. B. Chapin, Mount Clemens, Mich.; E. W. Davis, Saginaw, Mich. L. A. Duhring, Philadelphia, Pa.; M. V. B. Dunham, Greenfield Hill, Conn.; W. H. Dunlap, Syracuse, N. Y.; James H. Dunn, Minneapolis, Minn.; J. Orton Edie, Grand Rapids, Mich.; H. F. Ewers, Union City, Mich.; M. Felton, Troy, N. Y.; D. E. Fuller, Hastings, Mich.; E. P. Garry, Boston, Mass.; J. C. Hannan, Hoosac Falls, Mass.; E. B. Harrison, Napoleon, Ohio; A. Hazlewood, Grand Rapids, Mich.; M. L. Herr, Lancaster, Pa.; J. W. Holiday, Barber's Creek, Ga.; A. M. Hume, Owosso, Mich.; John L. Irwin, Detroit, Mich.; Samuel C. Johnson, Hudson, Mo.; J. K. Leaning, Cooperstown, N. Y.; G. Frank Lydston, Chicago, Ill.; James A. Lydston, Chicago, Ill.; Geo. J. McKelway, Philadelphia, Pa.; Edward Martin, Philadelphia, Pa.; H. P. Merrill, Portland, Me.; A. W. Nichols, Greenville, Mich.; A. H. Ohmann-Dumesnil, St. Louis, Mo.; S. D. Presbey, Taunton, Mass.; A. Ravogli, Cincinnati, Ohio; Merrill B. Ricketts, Cincinnati, Ohio; Frank Ring, St. Louis, Mo.; Fred. W. Robbins, Detroit, Mich.; Geo. H. Rohé, Baltimore, Md.; Chas. P. Russell, Utica, N. Y.; Wm. E. Shaw, Cincinnati, Ohio; J. V. Shoemaker, Philadelphia, Pa.; C. A. Siegfried, Naval Station, Newport, R. I.; J. R. Simms, Union Grove, Wis.; E. A. Smith, Detroit, Mich.; Chas. L. Van Pelt, Toledo, Ohio; F. C. Warne, East Jordan, A. M. Wilson, Kansas City, Mo.; Elizabeth Woods, Toledo, Ohio; W. C. Wright, Jackson, Mich.

In the absence of the Secretary, Dr. McGuire, Dr. Ravogli, of Cincinnati, was elected Secretary *pro tem.*

The Chairman, Dr. Bulkley, read an address upon "Recent Advances in the Treatment of Diseases of the Skin."

Dr. Carrier, of Detroit, remarked upon the value of ichthyol, but thought he had found it rather objectionable on account of its odor, and the staining of the linen, resulting from its use.

Dr. Duhring, of Philadelphia, noted that Dr. Bulkley had remarked in his paper that no remedy of any value had as yet been reported in connection with dermatitis herpetiformis. He had found, however, that sulphur was valuable in this complaint. He used an application of sublimated sulphur and oil, equal parts. The discovery of its efficacy was accidentally found, and he recommended it as the most effective remedy with which he was acquainted. He believes that it acts upon the nerves of the skin, thus checking the disease.

In regard to antimony in skin diseases, he has used it with good result in eczema, and in certain other inflammatory diseases where the nervous system is involved. He used it in very small doses, and considered it a nerve tonic. He had used resorcin externally, but generally in rather mild strength, usually from ten to twenty grains to the ounce.

Dr. Russell, of Utica, called attention to the reference made to antipyrine internally in pruritic affections; he had not used it, but wished to call attention to the value of the salicylate of sodium in affections of an itchy character.

Dr. Duhring then read a paper upon "The Local Treatment of Acute Vesicular Eczema."

Dr. Russell, of Utica, read a paper upon "Eczema of Infancy and Childhood, with Special Reference to Etiology and Dietetic Treatment."

Dr. Elliot, of New York, sent a paper, which was read, entitled "Note on Reflex Eczema in Childhood."

Dr. Bulkley read a paper on the "Diagnosis and Treatment of Eczema Seborrhoicum."

These four papers were discussed together.

Dr. Ohmann-Dumesnil, of St. Louis, believed that there was some external causative element in eczema seborrhoicum; he regarded it probably as an inflammatory condition of the sweat glands; the abundant secretion produces irritation, and subsequent inflammation of the glands; he remarked on its occurrence upon the chest, and in places where there was excessive perspiration. He had found sulphur of value externally, but had seen the disease come back very shortly after its use. He also believed in the value of resorcin in this disease.

Dr. Garry, of Boston, remarked that eczema seborrhoicum was always very much worse in warm weather, and that while it would often disappear easily in cold weather, with the ointment of resorcin, he had found it to be much more rebellious to the same treatment in warm weather. He inquired if others had observed the influence of temperature in this disease?

Dr. Bulkley said that he regarded this as a very important matter; that he had constantly noticed in his practice that the affection was always aggravated in warm weather. He explained this by the supposition that the parasitic element probably found more propitious conditions to growth during warm weather, with the more abundant moisture upon the skin, than when the opposite conditions exist.

Dr. Shoemaker, of Philadelphia, in commenting upon Dr. Duhring's paper, remarked that he had found the remedies mentioned in connection with vesicular eczema very valuable, but wanted to call special attention to the value of Pond's extract, either pure, or diluted with water and glycerine. He had not had much experience in eczema seborrhoicum, but thought that constitutional treatment was also required, in connection with external applications. Externally he had had good results from europhen, and also from aristol, either of them in the strength of fifteen grains to the ounce in ointment.

Dr. Ricketts, of Cincinnati, said that he had heard the original paper on the subject of eczema seborrhoicum, by Dr. Unna, in Washington, in 1887, and had observed quite a number of instances of the eruption since. He mentioned the case of a gentleman, who had the eruption on the head and neck for some time, and had made use of many remedies, but was finally cleared by a 15 per cent. of white precipitate ointment. He then had a relapse, and failed to get relief with this ointment, but the disease was finally removed by a rather strong ointment of red precipitate.

Dr. Duhring said that he believed that we should not put too much confidence in the entity of seborrhœic eczema as a disease. He thought the name was not applicable to many of the cases to which it was given. Fifteen years ago he had called attention to seborrhœa as it existed on the body; it being previously only spoken of as affecting the scalp. He believed that eczema was often complicated with true seborrhœa of the face and the body, composing a mixed process in which sometimes one or the other element would predominate, and he said that he had seen many cases here and abroad which had been diagnosed seborrhœic eczema to which he was not willing to give this name; he thought that they were eczema or seborrhœa as the case might be. The affection in his opinion was not so common as indicated by the figures given by Dr. Bulkley. In seborrhœa there was commonly no itching; he mentioned a marked case of seborrhœa where there had been plaques on the cheeks and about the mouth, which had existed for many years, but had never had any itching. The eruption had disappeared after some local applications, but Dr. Duhring believed that some of these cases were not cured, but were only relieved by treatment. In seborrhœa, as he had described it, the sebaceous glands are affected, and somewhat involved in an inflammatory process: the disease he thought was not produced by any parasitic element, and was not contagious. The treatment of both eczema seborrhoicum and seborrhœa he believed to be largely local, and under the use of sulphur or resorcin they both usually got well, but the eczematous disease would yield the less readily of the two. He believed it to be very important to have the differential diagnosis between a simple seborrhœa and eczema seborrhicum.

Dr. Bulkley remarked that the paper of Dr. Elliot in regard to reflex eczema was one full of suggestions, and that it was a subject that it was well to bear in mind in treating cases of this disease. He could quite bear out Dr. Elliot's observations which were made largely at his clinic of the New York Skin and Cancer Hospital. All were well aware of how common it was to see an eczema infantile develop or appear along with the cutting of each tooth, and he had had repeated occasion to observe the recurrence of the eruption with each digestive disturbance.

He wished to compliment Dr. Duhring upon the clear and excellent presentation of the subject of the local treatment of eczema in children; it so constantly occurs that harsh and irritative measures are used, that one cannot remember too well that the milder, soothing treatment will often accomplish more in this condition. He, himself, made much use of the tar and zinc ointment, which he had presented to the profession some years ago, consisting of unguentum picis of the pharmacopœia, diluted three times with rose ointment, with a small amount of oxide of zinc in it. No single preparation had ever given him anything like the satisfaction which had come from using this, which when spread thickly, or applied firmly, served as a rule to check all irritation.

In regard to the matter of seborrhœic eczema, he believed with Dr. Duhring that it was still under investigation, and he, himself, was not wholly satisfied with regard to its true nature, or the position it should have in dermatological classification. He was confident, however, that it existed to a very much greater extent than was commonly supposed, and he did not think that the numbers he had mentioned were far from being correct. Clinically it had helped him a good deal in practice to recognize these cases, as the treatment was often much simplified thereby. To one who had watched the matter any length of time, it was really surprising to see what the proper use of resorcin or sulphur, or of both properly combined, will do in these cases, many of which had formerly proved obstinate under ordinary treatment.

Dr. Ravogli remarked that the topic of eczema was a most interesting one, but that he would be inclined to do away with the word eczema entirely, as void of sense, and use for it some word more explanatory, such as catarrhal dermatitis; but this, however, would probably be impossible now, as the designation eczema was so widely known, and generally used by practitioners at large; but he would not think it worth while to use the adjectives erythematous, vesicular, pustular, because they really designate little, if anything, in regard to the character of the disease. What is wanted to-day is to add to the word eczema an adjective which may give us an idea of the etiology of the trouble, such as the designation nervous, or seborrhoic, or tubercular, or parasitic.

From the description given by Dr. Duhring, of vesicular eczema, he inferred that nervous eczema was intended, or the acute eczema of Hebra, which suddenly appears, with symptoms of inflammation, vivid redness, and the active formation of vesicles, which soon break, giving existence to abundant serum.

The speaker called this nervous eczema, because he considered that it showed clearly the reflex action of the trophic nerves. He mentioned the case of a gentleman who had a peculiar idiosyncrasy against tobacco, and every time he attempted to smoke a cigar, he was affected with an eruption of this kind the following day.

This acute eczema does not generally last long, but will dry up in a few days, although it is apt to return. Repeated applications of starch powder he regarded as the most beneficial treatment, but in case the burning and inflammatory symptoms are very prominent, he gave cold applications with diluted liquor plumbi subacetatis.

In regard to eczema seborrhoicum, the speaker agreed with Dr. Duhring that the disease was not so very frequent, and that some care must be exercised in making the diagnosis. Before Unna had written his full description of the eruption, he had classed certain cases as eczema marginatum corporis which to-day he recognized as eczema seborrhoicum; he thought, however, that there were cases of seborrhœa combined with eczema which had nothing to do with the disease under consideration. He had, however, found resorcin to be very valuable in both classes of cases, and used it in strength of thirty to fifty grains to the ounce.

The committee for the nomination of officers was then appointed, consisting of Dr. Russell, of Utica, Dr. Ohmann-Dumesnil, of St. Louis, and Dr. Carrier, of Detroit.

Second Session—June 8, 10 A.M.

The Chairman reported to the Section the action of some of the other Sections, in regard to having the transactions reprinted in a separate volume, with the papers and the discussion therein, with also a list of those attending the Section to be printed in connection with the same. The suggestions were accepted, and it was voted to have the proceedings of the Section of Dermatology and Syphilography thus prepared and issued.

Dr. Ricketts then read a paper entitled "Report of Forty Cases of Psoriasis Treated Exclusively with Arsenious Acid."

Dr. Ohmann-Dumesnil remarked that psoriasis was one of the most peculiar eruptions which we have to deal with. In some mild cases he had seen good results from local treatment alone, some eruptions disappearing entirely under oil of cajeput, but it was very apt to return after a few months.

Dr. Duhring said that the essayist had spoken of his forty cases of psoriasis collectively, whereas he thought that every case of psoriasis must be considered individually. Sometimes cases of eczema resembled psoriasis so much that they could with difficulty be distinguished from that eruption. In those cases of psoriasis which exhibited inflammation, he thought arsenic internally only aggravates the disease, whereas in cases of uniform psoriasis, chronic in character, arsenic could be given in suitable doses. We must therefore distinguish the type and grade of psoriasis. Arsenic is sometimes useful in the beginning of the treatment, but afterwards proves injurious. In many cases he himself left the patient without any internal medication, relying exclusively upon external treatment, which alone is sufficient to remove the eruption, internal treatment being used only as peculiar indications may require. In conclusion, he thought that it was an error to put forth any remedy as a specific for this disease.

Dr. Hume inquired as to what observations Dr. Ricketts had made in regard to the recurrence of the eruption after treatment by arsenic.

Dr. Carrier stated that in one case of psoriasis he had observed pustules after arsenical treatment; as the pustules, the lesions of psoriasis return. He believed that we can often obtain better results by local measures than by internal medication.

Dr. Beardsley had used the arseniate of copper with good results, and believed that you could accomplish more by a

combination of internal and external treatment than by either alone.

Dr. Russell had observed the best results from arsenic in psoriasis diffusa; locally he had had the best results from white precipitate in ointment, and had also used with success the biniodide of mercury, in ointments of moderate strength.

Dr. Herr remarked upon the diversity of opinion which had been expressed, but he himself believed that arsenic was of great value in psoriasis, and had seen patients with this eruption whose nutrition was very poor, and who had been helped a great deal by it. He, however, employed local treatment as well, and was specially inclined toward salicylic acid, in the form of ointment.

Dr. Shoemaker remarked that arsenic was a valuable remedy at times, but it certainly was no specific for the eruption. The selection of remedies for psoriasis depended largely upon the type of the disease, and its cause. In cases exhibiting inflammatory conditions, antimony internally had proved useful in his hands in bringing the epidermis to a normal condition. In the more chronic forms of the eruption iodide of potassium had given him good results. He remarked upon the uncertainty of the solutions of arsenic often found in the drug stores, and thought well of using the salts of arsenic themselves. He called attention, also, to the hypodermic use of arsenic, the dose being pushed quite high, and claimed that better results came therefrom than when it was administered through the stomach. He also mentioned its use in the form of rectal suppositories. It often happens, however, that after the case has seemed to be cured, the eruption will be found to return, greatly to the disappointment of the physician and patient.

Dr. Bulkley remarked that there was no absolute specific for the disease. To illustrate, however, the actual power of arsenic in certain conditions, he referred to its effect in bullous eruptions, mentioning a report that he had made of a dozen or more cases, many in children, where arsenic controlled the affection entirely. To secure results, however, arsenic, he believed, should be given in small doses very frequently repeated; indeed, he commonly administered it every two hours when it was desired to produce a rapid, certain effect. The dose could be pushed very considerably, and he had given even up to five drops every two hours, for a period of several days, not only with no harm, but with immediate control of the eruption and benefit to the patient. Ordinarily he began with two drops every two hours, and increased by a portion of a drop every day either until the eruption had yielded or there were some very definite signs of its disagreement with the patient. If it acted on the bowels too freely there was no objection to giving a little opium in conjunction with each dose. When administered in this manner he had seen from day to day bullous lesions soften and dry up, and in his own person had experienced very remarkable results from this treatment, even after three or four doses of arsenic had been taken. He had employed arsenic thus frequently and freely for many years, and had yet to see any reason for believing that any harm could come from it.

In regard to psoriasis, he considered that the eruption could sometimes be entirely controlled by it, but this was not very often the case. He quite agreed with Dr. Duhring that great care must be exercised in regard to the diagnosis, and also in regard to the stage and form of the disease. In the inflammatory forms, arsenic would certainly often aggravate the eruption greatly. In cases which had existed a long time, when arsenic was used it sometimes proved very effective, and is the only remedy which would hold the eruption in check.

He mentioned one case, that of a very intelligent clergyman who had taken the remedy very continuously, certainly for over ten years, in medium doses, and when an account was made some time ago, it was found that he had consumed in all nearly a gallon of Fowler's solution. In regard to the form of arsenic which was recommended by the essayist, he had found the solution in hydrochloric acid, which was known some time ago as De Valangin's solution, very valuable, and had repeatedly advised its use.

He agreed, however, with all the speakers that the local treatment of psoriasis constituted a very important element in its control. Upon the scalp and face he employed very largely the white precipitate in ointment. He had been recently using with most excellent results the *gallacetophenone* in a 10 per cent. ointment, which had given him better results than almost any remedy; this should be freely rubbed in morning and night, the scales having been previously removed, if they existed in any quantity. This had the advantage over chrysophanic acid in not staining the clothing.

For the treatment of local patches about the body it was often very desirable to apply chrysophanic acid in collodium, painted over the spots, and the very best results were also obtained by painting them with pyrogalic and salicylic acid, combined together in flexible collodium.

Dr. Carrier raised the question as to whether chrysophanic acid acted only on the locality to which it was applied, or if there was any action on the general system. He referred to an observation which he had made, in which the remedy was applied to but one-half of the body, and the psoriatic patches disappeared upon the other side where no application had been made.

Dr. Shoemaker thought that chrysophanic acid was very objectionable, either in ointment or in solution, on account of the great staining produced, but when incorporated in soap he regarded it as very useful, removing the scales, and acting readily without staining.

Dr. Ricketts in closing the discussion said that he never intended to state that arsenic was a specific for psoriasis, neither did he think that mercury was a specific for syphilis. He believed that arsenic had some influence upon the peripheral nerves, increasing the supply of blood, and causing the skin to be better nourished and the epidermis to be restored. In regard to the cases which he had mentioned, he stated that there was the greatest variety of the forms of psoriasis among them, varying from the mildest to the most universally diffused. He thought that the hypodermic administration of arsenic was the most accurate and effective manner in which it could be applied, and he had injected the arseniate of soda in half grain doses twice a day, without any inconvenience or consecutive abscesses. He preferred solutions of arsenic to using it in pill form, as he believed that in the latter instance there was danger of not securing an accurate dose. He spoke favorably in regard to the use of soap, mentioning a preparation in which albumen was incorporated with it, which he had recommended some time before.

Dr. Ravogli then read a paper upon "The Influence of the Nervous System in certain Disturbances of the Skin."

Dr. Dunlap congratulated the writer upon the full and accurate mode in which the subject had been worked up. He inquired in regard to one of the cases mentioned under the title of atrophic maculæ, as to whether it was not really one of morphœa?

Dr. Herr mentioned the case of a young lady subject to epilepsy, who had discoloration on the cheek which he had regarded as of neurotic origin; there was no sensation in the spot to the insertion of a pin. She suffered also much with cephalalgia. He mentioned also another case where the pigment was entirely absent from the hand; the patient suffered from Addison's disease, from which he died, and on post-mortem the supra-renal capsules were found completely degenerated.

He believed with the essayist that all these disturbances of pigmentation were dependent upon nervous disturbances.

Dr. Duhring remarked that there were affections of the skin which were really not so-called skin-diseases, and therefore, the essayist did well to call them disturbances of the skin; their causation was often found in derangement of the nervous system, and he wished to confirm the views of the writer. In regard to the criticism that had been made that there was no consideration of the treatment in this group of cases, he remarked that the ground taken by the author was quite correct in such an essay, for really there was no definite treatment for these cases; each case required special treatment. He believed that the sympathetic nervous system is very commonly involved in these cases.

Dr. Ohmann-Dumesnil referred to a case of which he had published some time ago, of leucoderma symmetricum, which had occurred in a lady affected with anæmia of the spinal cord. He also mentioned a case of periodic hyperidrosis in a lady, which he believed dependent upon the disorder of the sympathetic nerves; the rupra-renal capsules are considered abdominal ganglia, and from the quantity of pigment which is developed in Addison's disease, may be inferred the correctness of this theory. He mentioned cases illustrative of the nervous element in these affections, such as one of atrophy of the skin and muscles in a girl, after a severe burn; and another case where a quantity of warts was distributed along the nerve tracts. He also mentioned alopecia areata as a nerve disturbance in many instances, and he believed also that hypertrophies and atrophies of the skin were also of nervous origin.

Dr. Bulkley remarked upon the influence of nerve disturbances in connection with skin lesions, and referred to a number of papers which he had published on the subject.

Dr. Dunlap, of Syracuse then read a paper upon "Pemphigus Hæmorrhagicus, or Purpura Bullosa."

Dr. Ravogli thought that we should be very careful in applying the term pemphigus to cases, as very many which were formerly called by this name, were now referred to as dermatitis herpetiformis bullosa; the characteristics of this latter eruption which guide us are the polymorphism of the lesions, the presence of pruritus, the frequent relapses in spite of the apparent good health of the patient. In the case referred to by the essayist, there was found some polymorphism, but the patient was in very poor general condition, and there was complete pruritus, which would favor the diagnosis given; he thought it very important to distinguish between the two eruptions named, because of the difference in their prognosis, which in the former was favorable, although the eruption would prove tedious, whereas pemphigus was essentially a fatal disease.

Dr. Russell was rather inclined to regard the case as one of dermatitis herpetiformis, on account of the polymorphism, the relapses and the redness appearing before the evolution of the bullæ.

Dr. Duhring remarked that he had followed the writer closely, and he believed the case to be one of pemphigus hæmorrhagicus. Hæmorrhage was not uncommon in connection with bullous disease, but on the other hand, cases of true pemphigus were very rare; cases were reported now and again, with such names as pemphigus nervosa, but he believed the time was not far distant when the term pemphigoid would disappear from our nomenclature. He referred to a case recently observed in a woman who was afflicted with a bullous diseases, which was due to disordered menstrual function. He thought we must change and qualify our ideas of various diseases, classifying the atypical cases with the types and considering them as varieties of well known diseases.

Dr. Bulkley remarked that in New York it was common to use the name hydroa when referring to many bullous eruptions of more or less uncertain character, preserving the name pemphigus for only a certain proportion of those which could be pretty clearly classed as such; under dermatitis herpetiformis they were classifying many atypical vesiculo-bullous eruptions which presented the features referred to of polymorphism, pruritus, frequent relapses, and grouping of the individual lesions. In regard to the case referred to by the writer, he was in doubt if it would be properly called one of pemphigus, nor would he rank it as dermatitus herpetiformis, on account of the absence of pruritus. He called particular attention to the value of arsenic in repeated and frequent doses, in controlling the eruption of pemphigus, and urged its more frequent use in this manner.

Afternoon Session, June 8.

The Report of the Nominating Committee was presented, and the following officers were elected for the ensuing year: Chairman, Dr. L. A. Duhring, Philadelphia. Secretary, Dr. W. H. Dunlap, of Syracuse. Executive Committee, Dr. L. Duncan Bulkley, Dr. Ohmann-Dumesnil, Dr. A. Ravogli.

Dr. Russell then read a paper entitled, "Acute Circumscribed Œdema of the Skin."

Dr. Ohmann-Dumesnil referred to the case of a laborer who had his finger scratched, and on the following day cutaneous œdema, appearing like urticaria, set in, whiter than the normal skin; it was bathed in a solution of bi-chloride of mercury, and disappeared in a few days. He thought that cases of this kind were the result of an inflammatory process in the lymphatic vessels, due always to a slight infection.

Dr. Duhring remarked that he had never seen a similar case, but referred briefly to that of a lady who suddenly had great difficulty in swallowing, and large swellings appeared here and there upon the mucous membrane of the throat and mouth. The diagnosis of urticaria tuberosum was made, and he believed that this eruption had a close relation to the condition described by the speaker.

Dr. Ravogli said that he had frequently seen œdema of skin limited to certain regions, especially upon the limbs, and found that there was always a certain degree of lymphangitis. Careful examination would always reveal the presence of a scratch, or an abrasion, or a pustule covered with a crust, which he believed was the point of entrance of the virus, giving rise to lymphangitic affection.

Dr. Bulkley said that he had now and again met with a case of œdematous swelling, which was red and with burning sensation, which he did not consider infective, but rather angioneurotic; he believed that the lesions in the case described by the essayist were of this nature, rather than inflamatory and lymphangitic affections.

Dr. Ohmann-Dumesnil exhibited models in plaster of Paris, the superior maxilla of patients, to show certain anomalies of the teeth and palate in syphilitic and non-syphilitic subjects. He also exhibited two scapulæ, and two astraguli, affected with osteitis, which were exceedingly light. In the scapulæ the disease had rendered the bones almost transparent.

Dr. Ohmann-Dumesnil then read a paper entitled, "Some Successful Methods in the Treatment of Alopecia Areata."

A paper by Dr. Jas. H. Dunn, of Minneapolis, was also read by Dr. Russell, entitled, "A Case of Tubercular Adenitis, with General Alopecia and Pruritus."

Both papers was discused together.

Dr. Wilson referred to a case of general alopecia, in a letter-carrier, who lost the hair off the entire body in a very short time. Under the use of pilocarpin, one-tenth of a grain internally, and electricity, the hair was entirely restored in a short time.

Dr. Herr said that he had treated a number of cases of alopecia areata, some of neurotic origin, and some parasitic. In some cases now under treatment, he had used the carbolic acid, according to the method recommended by Dr. Bulkley, and had satisfactory results with it. He had now in his clinic two cases of boys belonging to the same famiiy, under treatment. He was inclined to believe that most cases were of parasitic nature.

Dr. Shoemaker, of Philadelphia, believed that applications of massage, combined with galvanism, gave the best results; cases varied, however, and some are particularly obstinate. He had never used the pure carbolic applications, and feared to do so after some personal experience with carbolic acid, which he had gotten accidentally upon his own face.

Dr. Russell remarked that he did not see many cases of alopecia areata, but nearly all of those which came under his observation he believed to be of neurotic origin. He had commonly employed the French method, with cantharidal collodion, up to producing vesication, applying with an ointment containing thirty grains of the yellow sulphate of mercury to the ounce; he had also had very good results in the application of an ointment of chrysophanic acid, thirty grains to the ounce.

Dr. Duhring said that he was very much interested in the paper, but inquired how Dr. Dumesnil would distinguish between the two varieties of alopecia, the neurotic and parasitic, which he had mentioned; he himself was not able to distinguish between the two, and had never seen any cases in which the parasitic origin could be considered as proven. Although his cases seemed to be of neurotic origin, he did not deny that occasionally the disease seemed to be contagious, as sometimes several would occur in one family, but such had not fallen under his observation. He did not think that much could be accomplished by local treatment, but the most reliance should be placed upon the nutrition of the nerves of the patient.

Dr Ravogli congratulated the essayist upon his attempt to clear up so perfectly the matter of alopecia areata by placing some cases as neurotic, and others as parasitic, but as long as it is seen so clearly that atrophy of pigment, and also of connected tissue, can be produced by disorders of nutrition, there is no reason for denying that the hair may also fall from disorder of the vaso-motor nerves; in his practice he had seen but little looking toward a parasitic origin of the disease.

He thought, however, that certain cases of alopecia areata, presenting stubbed hairs over the surface, with more or less itching, certainly strongly suggested a parasitic origin, and he was inclined to recognize such: he referred to trichorexis nodosa as a variety of alopecia areata, produced by parasitic elements, but gave no proof of the connection between the two.

In regard to the local treatment of alopecia areata, he believed that the many strong applications which had been suggested were all of parasiticidal nature; good results could be gotten by painting the spots with tincture of iodine, rubbing with crude coal oil, washing with a strong solution of bi-chloride of mercury, the oleate of mercury, strong acetic acid, and numberless other remedies, all of which produced a desquamation of the skin. In common alopecia, which was one of the stages considered, he believed that most of the cases were due to the existence of sebor-

rhœa; this was often due to the poor nutrition of the general system, but likewise, sometimes the result of micro-organisms. In these cases resorcin was of great value, but he believed that the application of tincture of tar was always a valuable adjuvant.

Dr. Bulkley remarked that undoubtedly a very large proportion of the cases of alopecia simplex were due to seborrhœa, and the application of a 5 or 6 per cent. solution of resorcin in water and alcohol would often suffice to check the disease; he believed, however, the loss of hair to be due to a faulty nutrition, and in every case he administered phosphates, and also made large use of milk.

In regard to alopecia areata, he was not yet entirely satisfied whether there was also a parasitic variety, as well as a neurotic. In those cases where there were broken and stubbed hairs, he was inclined to believe that a parasite might eventually be found, but he had never been able to to discover one with the most minute examination. In those cases of alopecia areata where there were the broken and stubbed hairs around the margin, and sometimes even in the patch, he believed that there was an accompanying trichorexis nodosa, which complicated the disease; these hairs certainly resembled very closely those produced by the trichophyton, and he thought that this was the explanation of many mistakes which had been made in supposing cases of alopecia areata to be of parasitic origin. He did not believe that the occurrence of several cases in one family, afforded any proof of its contagious character, as they could all arise from the patients being under similar circumstances of life.

In regard to the treatment of alopecia areata, he had already strongly recommended the painting of the spots with pure carbolic acid, repeating the application every week or so, when the scaling had come off, and if the surface did not look too red or inflamed; the application does not produce any considerable pain, and the patients never objected to a second application of the same; he believed that the small amount of pain, and the very slight inflammatory action following the application was an argument in favor of the neurotic origin of alopecia areata. He mentioned two cases where for demonstration he had painted a patch on the top of each head, two inches long by one iuch wide, with square corners, upon a perfectly bare surface; this produced a very striking appearance, as the hair began to grow after one or two applications, giving a sharply defined rectangular patch of fine hair growing upon an otherwise perfectly smooth surface: this was watched for some time with great interest, both by the patient and himself.

Internally he administered strychnia in phosphoric acid in full doses, and encouraged the use of all kinds of foods containing fats and phosphates.

In regard to the case reported by Dr. Dunn, he thought that it furnished a strong argument in favor of the neurotic origin of alopecia areata, especially the pruritic element, which preceded the occurrence of patches. He mentioned a very similar case in a young man where there was, in conjunction with the very general alopecia areata, intense pruritus, and the occurrence of vesicles in groups, forming an eruption, which was recognized at the New York Dermatological Society as dermatitis herpetiformis. Later there were tumors developing here and there, and after death the patient was found to be the subject of pretty general sarcomatosis; it was believed that all the skin phenomena were but the result of the extension of the sarcomatus process among the nervous structures.

Dr, Ohmann-Dumesnil stated that he had applied carbolic acid in alopecia of the scalp to the extent of even ten square idches at once, and without producing an inordinate amount of pain, or deleterious effects; he had also repeated an application of the same twice a week, without any reason for regretting it. He believed that the pain was pretty severe for a moment, but stated that it very soon ceased. He never hesitated to apply carbolic acid when needed, and found that after the application the hairs which regrew were not found to be lanigo hairs, but those which were well developed. He believed that he could distinguish a parasitic alopecia areata by the presence of a small amount of scaling, and hairs which broke off readily.

SESSION, JUNE 9.

Dr. Breakey, of Ann Arbor, read a paper, entitled, "A Case of Lupus."

Dr. Atkinson, of Baltimore, thought that the extensive notoriety of tuberculin was due more to the public press than to the scientific journals, and that the physicians themselves were greatly influenced by the public in the matter. The failure to realize what had been promised caused the remedy to lose popularity, but now that the general agitation in regard to the matter had passed over, he believed it to be a time for scientific investigations.

There was no doubt in his mind that tuberculin had a great power over the tubercular process, and results which had been obtained since the excitement were rather encouraging. He thought that the enormous numbers of the microörganisms present in tubercular disease, only gave reason for longer continuance of the treatment until they had quite disappeared from the system, for they are ever ready to develop afresh from those that remain. He believed that in spite of all the apparent failures, we were on the road to discover a specific for tuberculosis, for never before had there been found any agent which exhibited such a power against the tubercle bacillus.

Dr. Duhring agreed with the speaker as to the possibly brilliant future of remedies like tuberculin in lupus although his own experience with tuberculin had been limited, and not successful. He briefly reported the case of a woman of thirty-five, with patches of lupus vulgaris on both cheeks, in the nares, and extending back to the throat; the tubercular infiltration was so disseminated, not only in the corium, but also in the sub-cutaneous tissue, that it was impossible to raise the skin in folds. As it was a case in which little or nothing could be done by local treatment, he inoculated the patient with the culture of erysipelas. The experiment was a failure, no reaction taking place, and he now expects to inoculate her with tuberculin. In ordinary superficial patches of lupus, the disease can be removed by scraping, and recovery often takes place, but when infiltration is deep and extensive, then he believed that it would be desirable to use injections, and he had no doubt that some treatment more or less of the nature of that under discussion would be the treatment of the future. He called attention to the fact that in the reports regarding treatment by tuberculin, the distinction had not always been made between lupus vulgaris and lupus erythematosus, which are two distinct affections.

Dr. Bulkley remarked that he had not joined in the enthusiasm of the time in regard to this treatment, and he had watched but a few cases of lupus treated with tuberculin, and must see and know more of it before he could express anything in regard to its utility. He quite agreed however, with what had been said in regard to the chronic nature of lupus requiring a prolonged treatment, and thought that the mistake had been in discontinuing the use of the remedy too soon. The enormous number of bacilli which may be found in the system under the worst conditions, indicated the difficulty in reaching the disease, for we know that until all are destroyed or nullified, their reproduction can occur.

He instanced the chronic nature of the poison of syphilis, in which the treatment must be prolonged for a great length of time, in order to obtain perfect recovery; even after active symptoms have disappeared, if the treatment is discontinued too soon, we are apt to see one lesion or another come again and again. He thought the same applied to lupus, and was glad to learn that Dr. Breakey intended to continue the treatment, and hoped that he would have it prolonged for a considerable length of time, and he should look forward with interest to the result, which he trusted would surely be reported at the meeting of the Section of the Association next year. In regard to lupus erythematosus, he believed, of course, that tuberculin would have no effect on it, its nature being entirely different from that of lupus vulgaris. During the period when the treatment by tuberculin was strongly advocated, one patient with very general lupus erythematous, affecting even the hands very severely, was desirous of undergoing the tuberculin treatment. Knowing that this was useless if there were no bacilli, he excised portions of the affected skin, and had them very carefully studied by a skilled microscopist. No bacilli were found, and the case was not thus treated, but since that time it had yielded to phosphorous, given internally in free doses.

Dr. Rohé asked whether any member had had any experience with tuberculosidin?

Dr. Ravogli remarked that he had not had personal experience with the use of tuberculin in lupus, as he was alarmed by the reports of Vidal, Besnier and others. He mentioned the case of a gentleman in Cincinnati who had lupus of the nose, and was under treatment in a hospital in Washington, where he took one hundred injections. On returning to Cincinnati the condition was very much worse, and his nose so destroyed that he was obliged to wear a covering continually.

On the other hand, Dr. Kosmer, of Cincinnati, recently showed to the Academy of Medicine a tubercular subject who had been treated with tuberculin. He had patches of lupus on his right cheek and nose, which had been treated locally at various times without results. As his lungs showed points of tubercular infiltration, and bacilli were found in his sputa, injections of tuberculin were given him every two or three days in one to five milligrams. Under this treatment the lupus patches began to improve to such an extent that when he was presented to the Academy, only two superficial scars remained to indicate the site of the former lupus. An examination of the chest showed that the infiltration had diminished a great deal, and bacilli were no longer found in the sputa. These results were obtained in but a few weeks, but we cannot say yet whether there will be any relapse. The speaker therefore agreed with the Chairman that treatment should be continued a long time in this disease, as in syphilis, before we can say that the patient is free from the tubercular bacillus.

Dr. Breakey said that he wanted to show that his experiments were perfectly in accordance with those of Dr. Geddings; the injections with iodine produced no reaction whatever, but he believed that he would have ultimate results from the tuberculin, and he proposed to continue the treatment with the patient if possible.

The Chairman requested Dr. Breakey to give a further report upon the case at the next meeting of the Section next year, as he thought it extremely desirable that matters of this kind should be followed out for a greater length of time.

Dr. Goldenberg, of New York, sent a paper entitled "Chancre of the Finger, with especial reference to Adjoining Adenopathy," which was read.

Dr. Ravogli mentioned a case of hard chancre under the nail of the third finger of the right hand in a medical man with eczema of the fingers. The patient had very extensive maculo-papular eruption all over the body. In this instance there was much general adenopathy, and the epitrochlear gland of that side was enlarged and very hard.

In another case of hard chancre on the second joint of the right thumb, in a saloon keeper, the lesion had the appearance of a large wart, and there was general maculo-papular eruption, with adenopathy; the epitrochlear gland of that side was enlarged and prominent.

Dr. Duhring said that medical men sometimes believed that they had acquired syphilis through their surgical work, when the eruption would prove to be only some simple erythematous disease. He mentioned two cases of the kind where no extra-genital chancre could be found, and the eruption subsequently proved to be innocent.

Dr. Carrier said that the question raised in the paper in regard to whether the epitrochlear or the axillary glands were infected in certain chancre of the fingers, could readily be explained by the topography of the region; when it was situated superficially, one set of the lymphatics would be affected, and manifest the glandular enlargement at the elbow, but when more deeply situated, another set of lymphatics would be involved, and the glandular enlargement would appear in the axilla.

Dr. Bulkley remarked that he had more commonly seen the glandular enlargement at the elbow in cases of chancre of the finger, and mentioned a recent case seen at the New York Hospital. The patient came for the treatment of gonorrhœa, when on later examination he was found to have a maculo-papular eruption. As no chancre could be found in ordinary situations, he examined the entire surface very carefully, and found the left index finger bound up with a piece of plaster. It had been sore for a couple of months, but of course the real character of the sore was not known to the patient. The ulcer involved all the tip of the finger and extended beneath the nail, which was long and protruding; the surface was raw, moist and shiny; there was very great adenopathy felt at the left elbow, and also some in the axilla, but none in the corresponding locations on the right arm. He had seen a very considerable number of chancres on the fingers of physicians, and his impression was that almost always the cubital gland was first enlarged; but he reminded his hearers that glandular enlargement was not necessarily a sign of syphilitic infection, but could occur from any inflammatory or ulcerative lesion of the part. He himself several years ago had abraded the knuckle of the little finger of the left hand. This remained sore for some weeks, refusing to heal, and took on the characteristics very suggestive of chancre. As he was constantly exposed it was feared that this was its real nature, and some cubital and axillary adenopathy seemed to favor this view. But upon splinting the hand and protecting the sore with cotton, it healed up very promptly without specific treatment. No ulterior results followed.

In reference to the general subject of extra-genital chancre, he remarked that he had full notes of at least one hundred cases which had come under his observation, affecting very different portions of the body, and he was inclined to think that these anomalies and innocent infections were far more common than was generally supposed.

Dr. Lydston believed that in most cases of syphilis the chancre could be detected if sufficient care was exercised; he thought it important to impress upon practitioners that there could be no syphilis without the existence of a chancre; he considered that when the lymphatics were found affected a chancre must be present somewhere. He mentioned the case of a lady who had a bad tooth, for which carbolic acid was applied for cauterization, and it produced an ulceration of the gum. This was thought to be wholly due to the carbolic acid, but infection in some manner had taken place through the same, and syphilis followed, the lesion on the gum being nothing less than an initial chancre. The virus he believed had been received from dental instruments.

Dr. Lydston read a paper upon "Circinate Syphilide, with Report of a Case."

Dr. Duhring remarked that he had met with this form of syphilitic eruption a number of times among people of the lowest class with broken-down constitutions, and especially those addicted or inclined to hard drinking. He believed that the nervous system had a great deal to do with the production of this form of eruption, and called attention to the resemblance of psoriasis to some forms of circinate syphilide, especially on the face and neck, and to the necessity of making an accurate diagnosis between the two.

Dr. Bulkley said that he thought it very unusual to see this form of syphilitic eruption so early in the disease, namely, after four months' infection, and thought that he had never seen one in so early a stage of the disease, although he had naturally seen a considerable number of such cases at later periods of the disease. He believed also that the nervous system had something to do with its production, and spoke particularly of the influence of the abuse of alcohol in bringing on the severe and late lesions of syphilis.

Dr. Ravogli remarked that the division of the symptoms of syphilis into primary, secondary, tertiary and quaternary had been a mistake, giving the impression that the symptoms follow one another in an established manner. He would rather adopt the distinction followed by Virchow, dividing the phenomena into those of the earliest stage and the late stage of syphilis; those early in the disease being characterized by an inflammatory condition, while those later were characterized by infiltrations and new growth. He called attention to the fact that gummata occasionally occurred quite early in the disease, and had been found in the meninges of the brain only one year after infection. Looking at syphilis in this light, he did not wonder at circinate syphilide occasionally occurring early after infection; the eruption is only a nodular form, composed of small points arranged in circular manner. In the instance in question, he believed that seborrhœa was complicated with the syphilis, which aided in producing the thick crusts. He regarded the circinate forms of syphilis, especially when occurring on the palms, as very obstinate. He had found great benefit from the use of baths of corrosive sublimate, one to a thousand, soaking the hands in this solution for some time, even up to an hour every day. In regard to the influence of the nervous system in the production of this eruption, he referred to the studies of Polotebnoff in psoriasis, and thought that if they were correct, the nervous system had very much to do with the disposal of these circular forms of syphilitic eruption.

Dr. Lydston remarked that others had spoken of seeing examples of the circinate syphilis in public institutions, but the case which he presented was the first one of the kind which he himself had met with. He agreed with the speakers in regard to the neurotic element as the cause of the peculiar manifestations which sometimes occur early in syphilis, and commented on the fact alluded to with regard to their appearance in those who had abused the use of alcohol, and had broken-down constitutions.

The Chairman then made a few closing remarks in regard to the work of this branch of the Association. He said that he considered that the members of the Section had great cause to congratulate themselves both upon the most excellent work which had been done in the way of the papers presented, and the discussions thereon, which had in his

judgment quite equalled the same in some of the special societies. There had also been very good attendance at the meetings, in all a total of 102 at all the sessions of the Section, which would average over twenty at each meeting. He urged those present to take an active interest in preparing for the next meeting of the Section in Milwaukee, and thought that under the able Presidency of Dr. Duhring, the meeting promised to be even far more successful than the present one had been.

He then introduced the Chairman for the coming year, Dr. L. A. Duhring, of Philadelphia.

Dr. Duhring said that he wished to endorse what Dr. Bulkley had said in regard to the good work accomplished in the Section; he thought that the papers had been excellent, and the discussions clear and satisfactory. He thought that great gain was had from discussing such topics, and that there was much benefit to be derived from having general practitioners take part in the work of the Sections, as often very practical and valuable suggestions and facts were brought out thereby.

FORTY CASES OF PSORIASIS TREATED WITH ARSENIOUS ACID.

Read before the Section of Dermatology and Syphilography, at the Forty-third Annual Meeting of the American Medical Association, held at Detroit, June, 1892.

BY B. MERRILL RICKETTS, M.D.,
OF CINCINNATI, O.

So much has been said about psoriasis and its treatment, especially with arsenic, that I refrain from consuming much of your time.

It was before this Section that I read a paper on the uses of arsenic in May, 1888. I then endeavored to bring out the principal physiological advantages over the other remedies in the treatment of certain skin diseases.

To-day I will confine my remarks to its use in the treatment of forty cases of the various forms of psoriasis. This number constitutes all that I have treated during the last six years, both in private and public practice. With the eight or ten cases that did not come under my immediate care, I have seen about fifty cases from various sections of the country. Of the many remedies used in the treatment for psoriasis, I do not think that there is one that meets so many requirements as arsenic.

So far I have not found a person suffering with the disease, that could not take the remedy; true it was, with a few, taken with great difficulty, but with the proper and persistent management, it could finally be taken with impunity.

I have given as little as $\frac{1}{30}$ grain of arsenious acid daily, on the other hand, I have given as much as forty-eight twentieths or two and four-fifths grains daily, for eighteen successive days. This proves to me that the drug is not so dangerous in the hands of experienced medicators as was at one time believed. It also proved that what is a dose for one may be nothing more than a minimum dose for another. I want it understood right here that I do not use any other preparations of the drug than the following:

℞ Acidi arsenici, ℈i.
Acidi hydrochloric dil., ʒss.
Aqua, ʒiiiss. ℳ;

or the Asiatic pills composed of arsenious acid and black pepper in different proportion. The solution gives five grains to the ounce of water, so that every ten drops of the solution contains one-tenth grain of arsenic, which is held in solution by the hydrochloric acid.

I do not advocate the use of Fowler's solution. It is unreliable in strength, owing, however, to its being an article of commerce and the possibility of having been made for a great length of time and exposed to heat, air or light.

I have found that better results can be had in any course of treatment if that treatment is made as convenient as possible. If the remedy can be made tasteless and put up in shape that it can be carried in the pocket or otherwise convenient, the remedy can be taken more regularly for a greater length of time and with less complaint. Hence the disadvantages in using ointments, pastes, lotions and plasters in the treatment of psoriasis, one of the most annoying and persistent of the skin diseases.

These remedies are vile and disgusting to all classes of patients, and I do not hesitate to say that I would rather have the disease than to submit to their use. These objections have prompted me to abandon all other treatments than the one suggested in this paper, and I feel assured that the result obtained in the few cases I report, proves the efficacy of the treatment prescribed if nothing more. I am of the belief that the patient treated with arsenic has a longer immunity than if treated with any of the other numerous remedies; especially does this seem so in the most aggravated forms and in those of long duration. I have not been disappointed in a single case. In one case (that of a man 28 years of age), having suffered fourteen years, I was compelled to increase the amount of the drug to two and four-fifth grains daily for eighteen days before the scales began to disappear. There was little puffiness of the eyelids, slight diarrhœa and the occasional sensation of nausea. The patches became very red, gradually fading until, there was nothing left but a very slightly perceptible, coppery hue of the affected areas. There was desquamation of the epithelium covering the various cicatrices and finally covering the palms of the hands and soles of the feet. A recent letter from him, states that he never felt so well and that he has been entirely free from the disease for several months with the exception of a spot here and there, all of which disappeared under the influence of the arsenic.

In conjunction with the internal medication, I here applied the ungt. hydrargia album precipitatis in a few of the most aggravated forms, not so much for the good they would do as to satisfy a clamorous patient.

Occasionally we meet a patient who cannot be satisfied unless he is smeared or painted red with some concoction. I firmly believe that the eruption will disappear just as promptly without the local applications as with them. Although these cases under my care have made satisfactory recoveries under the influence of arsenic, I do not doubt that in certain cases other remedies will prove themselves as effectual but not as convenient.

If there is much scaliness upon the face or scalp I think it advisable to apply oils or simpler cerate, that the scales may be kept soft and that itching may be relieved.

TREATMENT OF VARICOSE VEINS BY RESECTION OF THE SAPHENA.—M. Reynier showed a patient before the Medico-Chirurgical Society of Paris who had been suffering severely from varix, treated by resection of the saphena vein. The cure was not complete, but so much relief had been given that the sufferer desired the repetition of the operation on the opposite leg.

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MEMBERSHIP IN THE AMERICAN MEDICAL ASSOCIATION.

This is obtainable, at any time, by a member of any State or local Medical Society which is entitled to send delegates to the Association. All that is necessary is for the applicant to write to the Treasurer of the Association, Dr. Richard J. Dunglison, Lock Box 1274, Philadelphia, Pa., sending him a certificate or statement that he is in good standing in his own Society, signed by the President and Secretary of said Society, with five dollars for annual dues and subscription for THE JOURNAL. Attendance as a delegate at an annual meeting of the Association is not necessary to obtain membership. On receipt of the above amount the weekly JOURNAL of the Association will be forwarded regularly.

SATURDAY, APRIL 29, 1893.

THE TREATMENT OF INSOMNIA BY SULPHONAL AND CHLORAL.

A paper by DR. ARTHUR A. BOYER before the Massachusetts Medical Society has been printed in the *Boston Medical and Surgical Journal*, having for its subject the after effects of some of the most commonly used drugs in functional nervous disorders. DR. BOYER believes that there is a strong temptation, in respect of those disorders, to secure striking, rapid and tangible results by medication at the expense of a rigid scrutiny of the after-effects of the drugs employed. With regard to many of the new remedies especially, it is noteworthy that the early reporters of their therapeutic workings publish satisfactory and even startling results without a sequence of untoward or dangerous after-symptoms. The student of therapeutics is impressed with the feeling that these happy results are abnormally uniform concerning many remedies that have been too recently introduced to clinical medicine to be properly understood. Or as DR. BOYER states, "it is not unreasonable to suspect that such reports are based on insufficient data, and that a better acquaintance with these drugs will reveal elements no less dangerous because insidious. DR. BOYER finds many cases in point when examining his experience as to the drug-treatment of insomnia. The drugs for this line of cases that are especially popular at the present time are sulphonal and chloral. There is a large number of patients, however, who continue unrelieved by these medicines, and who find their way into the hands of specialists seeking treatment for sleeplessness. There are two groups of these patients, first, those who are in the habit of taking chloral or sulphonal and yet cannot sleep; and, second, those who sleep when they take the drugs but consult you for extreme nervousness. These patients have certain symptoms in common. The facial expression is generally dull and smileless; the countenance hard-set and fixed, with the eyes heavy, often congested; a dusky pallor of the complexion, the whole being a suggestion of despair. The face seldom relaxes into a smile and the patient goes about like one in a trance, and talks in an automatic manner. Sulphonal inclines more to produce the despairing aspect, while chloral has more of excitement and irritability. In some cases tremor is observed. Chloral sometimes disturbs the related movements of the ocular muscles. Daily contact with patients has led DR. BOYER to the opinion that the suffering induced by the taking of these drugs may equal that of the original disorder. He has seen the withdrawal of the drugs serve the double purpose of elucidating the diagnostic problem and frequently give much relief to the sufferer.

MEDICAL EDITORS' ASSOCIATION.

In these days of concentrated effort and combinations of societies and journals, it seems strange that medical editors should have permitted this association to slumber along almost oblivious of the power which it possessed. For ten years this society has been only known by its making-up annals at the American Medical Association meetings, voting in a new list of officers, taking an indifferent meal, principally not for its cost, then falling asleep for another twelve months. The enthusiasm of some of the younger members, was generally chilled to zero after the first meeting and seldom rose again. Efforts to read papers sank into indifference, compared with the dinner, and even this often turned to a mutual admiration gathering.

But like the giant of the fable there are unmistakable signs of awakening, to a new life, that will give new form and direction to the sleeping powers of the medical press. There are over a hundred and twenty medical journals in the regular profession, going out weekly monthly and quarterly to the sixty or seventy thousand physicians in this country. If all these journals were organized, and their efforts concentrated they would be a great power in medical science. It is this failure of organization that gives discordant tone, and divided interests to the medical press. While many journals have rival interests, and local contests, they should all be united on general principles, and join in efforts for the common good of each. The officers of this association have resolved to make a great effort at the coming annual meeting in Milwaukee to perfect the organization and have every medical journal in the United States represented. Also to create a renewed interest in medical journalism, making every journal and its editors feel that its annual meetings are of personal value and importance to each one.

To this end ERNEST HART, the famous editor of the *British Medical Journal* has been invited to deliver an address which will be memorable to the

association in many ways. DR. J. STANLEY HALL, president of Clark University at Worcester, Mass., an editor of the *Journal on Psychology*, and at the head of the most complete laboratory for psychological research in America. This will no doubt cover some part of this most fascinating field of psychology.

The third address will be by HON. CLARK BELL of New York, editor of the *Medico-Legal Journal*, and president of the International Medico-Legal Congress. His topic will no doubt be on some question of legal responsibility of editorial work and managment. These three addresses by practical men and great leaders in their fields of work cannot fail to be of exceeding interest to every medical editor in the country.

Several short papers are promised at the business meeting by practical men bearing on the minor phases of journalism. An earnest appeal is made to every journal to have a representative at this meeting, and assist in rousing up, and developing the varied interests which can be made so great a power for good in the profession.

The profession are calling for a better class of journals, and everywhere efforts are being made to supply this demand. Trade journals and irregulars of every description are springing up, bringing means and methods that are antagonistic to science and true journalism. The only relief for which, is from a closer organization and more thorough union of work and interests, among the regular journals. The Editors' Association should represent every regular medical journal, and every editor should feel that an active membership in this society is an essential part of his successful work. The annual meetings should bring new strength and new inspiration to each member, thus not only raising the tone of his journal, but giving breadth and power to its influence. Thorough organization would enable journals to successfully break up many of the abuses which are difficult to correct alone. It would also, by the concentration of effort in certain directions, bring about reforms that would be difficult in any other way. Only through such a union can the strength of our journals be made apparent.

The officers of this association appeal to every medical editor to be represented at the coming meeting, and join in a united effort to develop and give greater power to the medical press of America.

PROFESSOR VIRCHOW IN ENGLAND.

The recent visit of the veteran scientist, PROFESSOR RUDOLPH VIRCHOW, to Great Britain, was an occasion which must be reckoned among the memorable events in the annals of science, and particularly in the annals of medicine. The occasion of this visit of the German *savant* was the delivery of the Croonian Lecture before the Royal Society, March 16, 1893. The subject chosen for the celebrated address was the "Position of Pathology among the Biological studies."

The lecturer read the history of pathology from the downfall of the humoral pathology, to the present time. In this march of scientific progress, two nations have ever been foremost in their contributors—Germany and England. The foundations of the structure upon which scientific medicine has been built, were laid by VESALIUS and PARACELSUS. Especial stress was laid upon the labors of HARVEY and of GLISSON by the orator. In terms of brilliant praise were the studies of these pioneers reviewed by PROFESSOR VIRCHOW, and especially was the work of GLISSON lauded; for, said the lecturer, this pioneer had sunk into unmerited oblivion. With the modesty so much a charming characteristic of VIRCHOW, he spoke of his own discoveries which led to the enunciation of his ever famous dictum.

Especially significant, in coming from the lips of this representative German scientist, are the hearty expressions of fraternal feeling from the German to the English investigators. In his Croonian oration, and in his subsequent speech at Cambridge, on the occasion of his assuming the honorary degree of Doctor of Science, PROFESSOR VIRCHOW dwelt with strong emphasis upon the brotherhood of the two nations, and upon the community of their labors, both political and scientific. Well may the British medical profession feel the pride of such expressions! "Men of a common race, of one blood, and of a common aspiration—German and English—should always go hand in hand in the generous emulation and combination for the highest purposes of thought and life." What the development of such a spirit may mean in our science is hard to foretell, but that it must be followed by most desirable consequences is evident. May the festivities which have marked the sojourn of VIRCHOW in England be the signal for a union of the scientific energies of the English and German speaking nations, such as the world has never seen! and may this union be but the introduction to that millenium in biological sciences when all men of all nations will labor "hand in hand" in the solution of the mysteries still unsolved! What has been accomplished in biology in three or four centuries is clearly outlined in the Croonian lecture. What remains to be accomplished is indicated with equal clearness. It must be that the orator, foreseeing with his clear judgment the increasing difficulties as the goal of biological inquiry is neared, realized the absolute necessity of a rallying of scientific forces about a common standard, and with a common aim.

The scientific physician the world over must re-echo the sentiment of SIR ANDREW CLARK, who, in

his toast to the honored guest, prayed that PROFESSOR VIRCHOW might long live to illuminate and to inspire the profession to which he belonged.

SOLID CHLOROFORMS.

The *Chemist and Druggist* announces that an important discovery in medical chemistry has recently been made by PROFESSOR ANSCHUTZ, of Bonn. After many trials, that chemist has succeeded in combining chloroform with the anhydrides of salicylic and cresotinic acids so as to produce solid and portable substances, from which pure chloroform can readily be derived. These solid chloroforms are simple mixtures and only about twenty-four hours are necessary for the process of cystallization to take place, which process is a means of essential purification since any impurities that exist are left out as the crystals gradually separate. These compounds are not decomposed by light, as is the case with pure unalcoholized chloroform, and therefore the new compounds will probably play an important part in the anæsthesia of the future. The readiness with which they can be produced is another signal advantage in their favor. The questions of storage and transportation, as applied to the new drugs, will probably receive favorable solution, but the elements of time and trial must be awaited and observed.

ANTIPYRIN IN EPISTAXIS.

DR. GUENOT, according to the *Press and Circular*, has tested the utility of antipyrin in several severe cases of epistaxis in children. When the child is old and docile enough to make insufflations of a solution of the drug, he has found that plan to work satisfactorily. A ten per cent. solution snuffed up from the palm of the hand has usually been efficient to control the loss of blood very promptly. In younger children, the same solution was injected into the nostrils through a small syringe, precaution being taken to see that the patient's mouth is kept open during the procedure. DR. WEST, of Boston, has reported successful cases of a like nature, but he has applied the antipyrin in solution on a pledget of lint, or has used the drug in a fine powder in cases of unusual severity. In no instance did the treatment fail to stop the epistaxis. The patient is, by this method, saved the tarry clots that are formed when ferruginous styptics are used.

"PEACH FEVER."

In the *Maryland Medical Journal*, February 18, appears an article on the above proposed new term by DR. C. L. G. ANDERSON, of Hagerstown. Those who work in the peach-canning industry are liable to an irritation of the integument and respiratory tract, with some systemic *malaise* and elevation of temperature of one or two degrees. The author has known of one case where the illness was so great that the patient, a young woman, was compelled to quit her employment as a worker among peaches. The source of irritation is believed to be some germ having its habitat in the "fuzz" of the fruit. All varieties of fruit are not alike irritative, first all the workers are not alike susceptible. "There are pachyderms whom all this does not affect, but neurotic and tender-skinned young girls suffer considerably." The state of the weather has something to do with the production of the "fever;" on cool and windy days or after a rainfall the irritating influence given off by the peach is scarcely noticed. But high temperature with high relative humidity favor the production of the trouble. There is no discoverable element of contagiousness in the disorder. The specific microbe, if any exist, has not been isolated.

ST. PAUL, MINN., April 9, 1893.

The fourth annual session of the Association of American Medical Colleges will occur at the Pfister Hotel, Milwaukee, Wis., at 3 P.M., Wednesday, June 7, 1893.

The following amendment to the By-Laws will be suggested, to wit: Granting associate membership of one delegate to each recognized school of post-graduate instruction in the United States.

Second. Granting associate membership of one delegate from each State board of medical examiners in the United States.

Third. By dividing membership into three classes, to wit: active, associate and honorary.

PAPERS.

Methods of the Manual Training in Medical Instruction. By E. L. Holmes, M.D., LL.D., Chicago, Ill. Discussion opened by Victor C. Vaughn, A.M., M.D., Ann Arbor, Mich.

To what Extent Should the Specialties be Taught in Regular Course? By Dudley S. Reynolds, A.M., M.D., Louisville, Ky. Discussion opened by A. VandeVere, Albany, N. Y.

Report of Committee on a system of uniform college certificates. By Prof. Victor C. Vaughn, Bayard Holmes and Perry H. Millard.

Report on a system of laboratory book-keeping. By Bayard Holmes, B.S., M.D., Chicago, Ill.

PERRY H. MILLARD, Sec.

ELEVENTH INTERNATIONAL MEDICAL CONGRESS (Rome, Italy, Sept. 24–Oct. 1, 1893).—American National Committee: W. T. Briggs, Nashville, Tenn.; H. P. Bowditch, Boston, Mass.; S. C. Busey, Washington, D. C.; C. Cushing, San Francisco, Cal.; N. S. Davis, Chicago, Ill.; Norman W. Kingsley, D.D.C., New York; Wm. Osler, Baltimore, Md.; Wm. Pepper, Philadelphia, Pa.; F. Peyre Porcher, Charleston, S. C.; Charles A. L. Reed, Cincinnati, O.; D. B. St. John Roosa, New York; Alex. J. C. Skene, Brooklyn, N. Y.; James Stewart, Montreal, Can.

A. JACOBI, 110 W. 34th St., New York, Chairman.

CIRCULAR: NEW YORK, April 1, 1893.

The North German Lloyd, 2 Bowling Green, N. Y., offers

a reduction of 25 per cent. to the medical men going to and coming from the Eleventh International Medical Congress, on Steamer Werra, which is to sail from New York on August 5 and September 9, and on steamer Fulda, on August 19. Both these steamers sail to Genoa. The same reduction will be made for the return trips in October and November, on the same steamers, and for the Company's Saturday (off Bremen, Sunday off Southampton), steamers.

The Hamburg-American Packet Co., 37 Broadway, N. Y., 125 La Salle Street, Chicago, offers a reduction of 25 per cent., both out and return, for all its steamers during the year 1893.

The Compagnie Générale Transatlantic, 3 Bowling Green, N. Y., offers the rates which are allowed French officers, that is, $63.50 for an $80 accommodation and $91.50 for a $120 accommodation.

Five other lines decline to make any satisfactory arrangements.

THE RUSH MONUMENT.—Members of the American Medical Association who have not already subscribed to this National medical undertaking, are urgently requested to come to the meeting at Milwaukee, in June, prepared to pay their contributions to the treasurer, Dr. DeWitt C. Patterson, of the District of Columbia, or to forward the amount before the meetting to his address, 919 I Street, N. W., Washington, D. C. The medical profession is again reminded of the peculiar fitness of Benjamin Rush to represent, not only the general practitioner, but the civil and military surgeon, the sanitarian, alienist, and medical philanthropist. The projected monument will be not merely a memorial of the distinguished individual whose name it will bear, "the greatest physician this country has ever produced," but will be symbolical of medicine in all its aspects and in all its relations to the community and the Nation.

ARE ASYLUM PHYSICIANS PARTY PENSIONERS?—The notion that public officers are the pensioners of a party, not the servants of the whole people, seems to die hard. The prospect appears to be that the officers of all the hospitals for the insane of the State of Illinois will be turned out to make room for members of the political party which, after an outing of thirty-five years, has once more gained the upper hand. It is true that the present Governor, in his canvass, made charges of extravagance and mismanagement against those institutions, but we presume that no one will seriously maintain that a lack of confidence in their management is the only, or even the principal reason for so sweeping a change. It is also true that, so far as one wrong can justify another, the course of the republican party, during the long period of its dominance in the State, has afforded an excuse for such a course. Only republicans have been appointed on the board of trustees, and we understand that the officers of the hospitals have been regularly assessed a portion of their salaries for the campaign funds. It is not long since the superintendent of the hospital at Anna was driven out of office with little or no pretense or concealment of the fact that the ground of his dismissal was his luke warmness in partisanship, and, from all that we can learn, his successor has not erred in that direction, although his attainments as an alienist have not, we believe, even yet, earned him any very wide celebrity.

We do not suppose that if a member of Governor Altgeld's family were to become insane, and he were looking for a suitable private hospital, it would ever occur to him to enquire into the physician's views on the tariff. We have no doubt that the multitudes of those who will applaud his action in this matter, or take it as a matter of course, employ, by choice, physicians of a different political faith from their own in their families, and would laugh at the idea that a man's political views have anything to do with his professional competency. It is the view that the salaries of these officers are not, primarily, the reasonable compensation for honest and faithful discharge of their duties, but the reward of activity in an entirely different field, that allows people to view with approval or indifference such changes, entirely without regard to the merits either of those who are turned out or those who are put in.

The pernicious effect of such a policy is so plain that we should feel as if we were insulting the intelligence of our readers by arguing the question. Men whose aspirations are for professional eminence and usefulness will hesitate about accepting positions in which such qualities count for nothing. Even if competent men are secured, they are sure, in a State in which parties are pretty evenly balanced, under such a system, to be turned out before they have acquired the experience that will enable them to do their best work. The inevitable tendency, under such conditions, is to the filling of the offices by men whose only object is to make money out of them, and who, knowing that the time is short, will "make hay while the sun shines."

We have no doubt that, in time, the mischief of treating the funds provided for the relief of the unfortunate as plunder will become so plain that it will be no longer possible in a government like ours. But we fear that a good many object lessons will be needed first, and in the meantime the insane must suffer. We shall be as much surprised as gratified if the medical profession of Illinois, without distinction of party, shall denounce the iniquity as it deserves. In the meantime, we believe it is the right and the duty of the American Medico-Psychological Association to scan critically the qualifications of the men who profit by the misfortunes of its honored members, should they apply for admission.—Editorial, *American Journal of Insanity*, April, 1893.

DOMESTIC CORRESPONDENCE.

Citric Acid the Important Constituent of Cancroin.

To the Editor of the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION:

Sir:—In your able review of Adamkiewicz' recent monograph on cancer I am pleased to note an apparent confirmation of views advanced by me more than ten years ago. In a communication to an Eastern medical journal I reported two operations upon malignant tumors of the face, in which metastases and recurrence were apparently prevented by local hypodermatic injections of a saturated solution of citric acid. The impossibility of including within the incisions all of the *infected* territory, without trenching upon important structures, also suggested the employment of the acid as an adjunct to the scalpel. As a result, the environing cells, which were then believed to be the *fons et origo* of metastatic foci, were destroyed, the tumors atrophied, and were later destroyed to save time. No recurrence within six years.

More recently, December, 1890, after a cancerous mamma had been extirpated the indurated and persistent wound was effectively treated in a similar way, and at the time of her death from peritoneal (mental?) cancer sixteen months later, presented a normal cicatrix.

There is an undoubted antagonism between this salt and cancer cells, and hence the presumption that citric acid is the potential agent in "cancroin." Furthermore, it is harmless and would seem to merit separate investigation.

Note.—Injections of the acid into the substance of an immense colloid carcinoma, near the termination of the case, caused disintegration of portions of the tumor.

C. N. Fenn, A.M., M.D.

San Diego, Cal.

FOREIGN CORRESPONDENCE.

LETTER FROM BERLIN.

Koch Institute for Infectious Diseases.

Of the many institutions established in Berlin for the advance of medical learning and research none is of greater importance than the Koch Institute for Infectious Diseases. Through the liberality of the Prussian government, this institution began its career on the 17th of August, 1891, and since then considerable important work has gone from its doors. The institute consists of two departments, the scientific department—a building of laboratories and a hospital. The scientific department occupies a large triangular building bordering on Charité, Unterbaum and Schumann streets. This is a building formerly utilized for dwelling purposes and which has been thoroughly rearranged for laboratory uses. In the cellar are janitor and servant apartments besides stalls arranged for the stabling of animals. The first story contains the important rooms of the scientific department, laboratories for the director of the institute and his assistants. On the second floor are found the laboratories of the hospital director micro-photographic rooms, other laboratories and a library. The laboratories are thoroughly equipped with all necessary appliances. The hospital lying opposite the main building of the Charité is arranged in the form of pavilions, seven in number. Each pavilion contains a long ward, a reception room, kitchen, pantry and lavatory. In all, the hospital contains 108 beds, sixty for males, thirty-six for females and twelve for children. The pavilions are built according to one of three types; the first form contains one ward of eighteen beds; the second, one ward of fourteen beds and two separate rooms, each containing two beds; in the third form the building is divided into exactly two parts, each ward having six beds. By this arrangement all forms of infectious diseases can be entirely isolated. The pavilions are all well built and thoroughly protected against wind and weather; their interior is of such a nature that each part with its contents can be completely disinfected. Disinfection is accomplished by means of a hot water vapor apparatus constructed according to the most recent improvements. On the hospital grounds there is also an executive building with lecture hall, and an autopsy room. The Institute for Infectious Diseases has for its object the study of infectious diseases and the solving of the many problems which these studies may give rise to; investigations are carried on into the life history of bacteria regarding the sources and modes of infection and the relation of organisms to the causation of disease. With this object in view examinations are made not only with materials obtained from the institute, but also with substances such as earth, water, derived directly from the source of infection. At the head of the institute stands Robert Koch, with Brieger as director of the hospital, and Pfeiffer director of the scientific department. Among the other investigators are Ehrlich, Behring, Trosch, Tebruschky, Kossel, Beck, Kitasato, Wasserman and assistants, twenty-five in all. No teaching is allowed at the institute and only advanced workers permitted in the laboratories. The post-mortem examinations are conducted by Koch himself, and each assistant given some work, which he is expected to complete. At weekly conferences, held under Koch's direction, matters under investigation are discussed and new work bearing on bacteriological subjects reviewed. Considerable important work has already gone forth from the institute, such as Behring's "Blood-serum Therapeutics" in diphtheria and tetanus, Brieger, Kitasato and Wasserman's various papers on immunity, Erhlich on hereditary immunity; immunity with abrin and ricin; Pfeiffer, the discovery of the influenza bacillus.

Dr. Julius Friedenwald.

Berlin, April 9, 1893.

BOOK REVIEWS.

The Hygiene of the Sick Room. A book for nurses and others, being a brief consideration of Asepsis, Antisepsis, Disinfection, Bacteriology, Immunity, Heating and Ventilation, and kindred subjects, for the use of nurses and other intelligent women. By William Buckingham Canfield, A.M., M.D., Lecturer on Clinical Medicine and Chief of Chest Clinic, University of Maryland, etc., Baltimore. Philadelphia. P. Blakiston, Son & Co., 1892. Pp. 247.

The material for this manual is derived from a series of lectures delivered at the University of Maryland Training School for Nurses. The principle idea of the author seems to be to show the relation of bacteria to disease and how to prevent sickness by antagonizing its causes. He offers a concise and comprehensive explanation of bacteriology in language so simple that any intelligent person can understand it. He treats of contagion, infection and disinfection, and gives rules for making and using disinfectants published by the American Public Health Association.

The chapter on diphtheria is one of the best in the book. The wider the dissemination of this kind of information, the better for the public. A short description is given of the infectious diseases, and interspersed are helpful hints for nurses. The chapter on the bacteria of surgical diseases, like a considerable portion of the rest of the book, seems to be addressed as much to the doctor as to the nurse. All the details of antiseptic preparations for operations are dealt with at length.

If the simple directions for the prevention of ophthalmia neonatorum were generally observed, probably more than 20 per cent. of blindness could be prevented. What life-long misfortunes are suffered through ignorance and neglect! We would be blessed with healthier and wealthier homes and children if mothers would read and heed the likes of this little book.

Atlas of Clinical Medicine. By Byron Bramwell, M.D., Assistant Physician to the Edinburgh Royal Infirmary, etc. Volume 2, part 1. Edinburgh: T. & A. Constable.

The *contents* of part 2 are Cases Illustrative of Alterations in the Field of Vision (continued). Syphilis. Cases of Friedrich's Ataxia with main-en-griffe. Asiatic Cholera.

There are numerous well executed plates, illustrative of the text. A high standard is maintained throughout.

An Introduction to the Study of Diseases of the Skin. By P. H. Pye Smith, M.D., F.R.S. Fellow of the Royal College of Physicians, and Physician to Guys Hospital. Cloth; 8 vo.; pp. 408. Lea Bros. & Co., Philadelphia. 1893.

This manual is well executed typographically, admirably arranged, and will take its place with other modern manuals as a worthy companion.

Diseases of the Skin; a manual for students and practitioners. By Charles C. Ransom, M.D., Asst. Dermatologist at the Vanderbilt Clinic, N. Y. Cloth. Pp. 201. Lea Bros. & Co., Philadelphia. 1893.

This little book belongs to the Student's Quiz Series, issued by the publishers and is on a level with the other books of the series published by this firm.

ELEMENTARY PHYSIOLOGY FOR STUDENTS. By ALFRED T. SCHOFIELD, M.D., M.R.C.S. Cloth. Pp. 372. Lea Bros. & Co., Philadelphia. 1892.

The constant recurring changes in the Biological Department of Medicine make text books obsolete so rapidly that the ink is scarcely dry on their pages until they are out of date; so that any new text book on physiology, elementary or otherwise, is sure to be welcome for it will contain much that is fresh from the laboratory and hitherto unpublished. The book is well illustrated, logically arranged, and its statements are made with clearness.

CHOLERA, ITS PROTEAN ASPECTS AND ITS MANAGEMENT. By G. ARCHIE STOCKWELL, M.D., F.Z.S. Member New Sydenham Society, London. Two Vols. Paper. Pp. 306. Geo. S. Davis, Detroit, Mich., 1893.

Owing to the vast literature on cholera, the multiplication of books on this disease, until new discoveries shall give additional light on this subject would seem to be an evil. The book in question is well written from the standpoint of one who has seen much of the disease. He favors blisters applied over the upper portion of the pneumogastric nerve in all cases.

NECROLOGY.

William P. Seymour, M.D.

The death of Dr. William Pierce Seymour, of Troy, occurred on the 7th, inst., in his seventieth year. He had formerly held professorships in the Castleton, Berkshire and Albany Medical Colleges, and had been the health officer of Troy before and during the epidemic of cholera in 1854. He was the author of several articles on obstetrical and gynecological subjects. He was one of the charter-members of the Association of New York State. He first joined the American Association in 1877. He was an enthusiast in his profession.

DR. EDWARD HOUGHTON JANES, of New York City, died March 12, in his seventy-third year by disease of the heart. He was an official of the City Health Department since 1866, filling for the greater part of the time the important berth of assistant sanitary superintendent. He was secretary of the Academy of Medicine for several terms, professor of hygiene in the Woman's Medical College and medical officer to North Brother Island Hospitals. He became a member of American Medical Association in 1866. He, with Dr. Elisha Harris and a few other health officials, was among the prime movers in the early history of the American Public Health Association, Dr. Janes being secretary of the meeting of organization held in New York City, in April, 1872. He was deeply versed in the questions of tenement house reform in our cities, and the management of infectious diseases among crowded communities, He was a fine musician and one of the most genial of men. His final illness is believed to have been hastened to an untimely rapid termination by an attack of influenza.

INTERNATIONAL MEDICAL CONGRESS IN ROME.—In order to enhance success, the Central Committee have communicated with all the European railways and steamship companies to obtain more favorable terms for the visitors. The French Government have promised to reduce their railway fares 50 per cent. The North German Lloyd will make special arrangements later. The Spanish companies have decided to reduce them 30 per cent. In Italy the visitors will have every opportunity afforded them of visiting all the principal towns by circular tours, both by land and sea. Rome possesses a large number of hotels of first and second class, which the Executive Committee think will meet the desires of the most economical. Ladies will be eligible for membership.

SELECTIONS.

THE POST-GRADUATE COURSE.—In these days of free education, primary and secondary education, when we hear so much of the foundation of new universities, it is well to be reminded, as we have been by Dr. Edward Everett Hall, of the education and training given by the world. He says in effect, that whatever the university may do, "the student has to carry forward his training in the larger college of the world." Comparing the education of the world with that of the college or university, he continues: "In that larger college man has to be his own president, fellow, professor, instructor. The world gives the diplomas, the rewards, the warnings, and the punishments, but the man himself has to be his own director. Whether he will go to chapel or not; whether he will breakfast at seven or eleven; whether he will read in the morning or in the evening; all this is directed in the future for you by no coach, no calendar, no faculty, no officer, but his own determination." The training of the world as it applies to medicine is often a very rough one, and it is well to bear this in mind even in student days. There can be no question in our mind as to the value of university training; that is to say, when the true university idea is carried out. The aim of university life is not pure information, but formation; and when in university life there is a broadening spirit this cannot fail to knit the mental fibre of the man, and to fit him for the subsequent struggle when, after taking a degree, the university doors are closed, and the stern battle of life commences. Competition in public school life and in university life is healthful, though it is true that those who have won prizes at our public schools and at our universities have not subsequently distinguished themselves, and have been beaten by men who at college have been looked upon as failures. Success in life, and particularly in medical life, depends upon many factors. Perseverance and tact are two essentials for success in medical life. University training ought to be rather favorable to the acquisition of these attributes of success, though we know by experience that they are not always secured thereby. The university graduate commences life with certain advantages; in a word, he has a start of some thousand yards over the non-graduate, and if he can keep up the pace he will reach the goal first, and that is just the question—whether he can keep up the pace. It cannot be disputed, then, that university training is worth securing, and we must thoroughly sympathize with the aspirations of those towns, which seek for university colleges, and for the midlands, which demanded a university.—*Provincial Medical Journal.*

ON SECONDARY NEURO-FIBROMA (*Centralblatt für Chirurgie*, February 4, 1893).—Dr. Garré, in a work on the above, emphasizes the following conclusions about this particular morbid growth: 1. By Weigert's method we succeed in examining small fibromata to find the residua of nerve fibres, and are enabled to demonstrate many small molluscous swellings in the palms of the hands and soles of the feet, parts previously considered to to be immune immune from that disease. 2. Among the neuro-fibro-mata, the smaller ones given off as swellings of the minuter nerve-branches, are almost completely without the perineuruim, whilst those larger ones, on the cutaneous nerve cords, are not so. 3. In the neuro-sarcoma of the sciatic nerve, the principle feature is the existence of spindle cells in the much connective tissue forming the matrix or ground work, and, besides these, the swelling contains, in addition to regular lymph spaces, irregular glandular tissue, whose spaces are lined with very fine cubical, and in some cases, ciliated epithelium.

HOBBIES FOR MEDICAL MEN.—Every man should have a "hobby," and medical men should by no means exclude themselves from the rule. "Hobbies" are useful in many ways, and the faculty they have of breaking the monotony of the daily routine of life and occupation raises them to a high position of usefulness in the ordinary concerns of human existence. But of course they have their drawbacks, like everything else, and every one who who has adopted a hobby knows full well that he is perforce compelled to guard against riding it too hard. In some cases undoubtedly the hobby may come to usurp a position to which expediency, at all events, would by no means relegate it, and then the time comes when steps must be taken to act in accordance with the dictates of common sense and sound judgment. The general practitioner, however, in the country, of most medical men, has the best opportunity of following some congenial hobby, and his chances in this respect are well enumerated in a recent paper by Mr. Alfred Freer. In hunting counties, as he truly says, the medical man who has sporting proclivities may with advantage in several ways contrive now and then to find a patient somewhere in the neighborhood of the "meet." Thus, by combining business with pleasure, he will come in handy should any casualities occur in the field. Shooting is not to be recommended as an amusement; it has a tendency to entice a general practitioner from his practice for too many hours at a time. Fishing has the same objection. Then there is the keeping of pet animals. Speaking for himself, Mr. Freer never likes to be long without a tame raven, magpie, or jackdaw to strut about the garden and premises. These, no doubt, afford amusement in their way, but it is doubtful whether in the strict sense of the term the contemplation of either or all of these specimens of the feathered tribe would afford that amount of relaxation to the mind of which a hobby must be productive in order to be useful. Of course, by making a special study of these animals it might be possible to learn something of their special modes of communicating with each other, and thus gather endless amusement from their conversation. Again, we are advised that dogs and fowls as pets, are not to be recommended to general practitioners who live in towns. This is a sound piece of advice, which, we imagine, would apply with greater force to the general public than to members of the medical profession. The objection to these animals is the nuisance they create by their nocturnal and early matutinal noises. Coming to indoor amusements, it is pointed out that the game of billiards has for some its fascination, but the drawback to it is that it sometimes leads to prolonged absences from home. Whist is next well spoken of, but the palm is given to chess, which has always the greatest charm; moreover, it possesses "the advantage of being free from objection on the ground of stakes." There is no doubt that the great barrier to the adoption of the useful hobby by many medical men is the want of time to devote to it. Without moments, strictly speaking, of leisure in which to enjoy himself, no busy man can derive much profit from any amusement or occupation apart from his work. But while this is the case, he should at the same time never forget that, as far as possible, he should try to find time for a "hobby" and follow it with sufficient assiduity for the benefit which he is certain to derive from it.—*Medical Press.*

BROMIDISM may be prevented, Féré claims, by an intestinal antiseptic being combined with the Bromide Salt as in the following:

℞. Potassii Bromid., ʒss
Beta Naphthol, ℈j
Sodti Salicylate, ℈ss.

for each dose, which is considered curative as well as preventive.

CHANGES IN THE ENDOMETRIUM IN FIBRO-MYOMA OF THE UTERUS.—Semb (*Archiv für Gynäkoeogie*, Band xliii, Heft 2) arrives at the following conclusions, based on an examination of twenty-five specimens of fibroid uterus:

1. In the majority of cases of fibroid uterus the endometrium is simply hypertrophied, showing no evidences of inflammatory changes. This hypertrophy may affect both the glands and the stroma; sometimes it is entirely confined to the glands.

2. Secondary changes may occur in the endometrium, due to the pressure of the tumor, or to inflammation in and around the uterus, in consequence of which hypertrophy may be prevented. The mucosa covering submucous fibromyomata uniformly undergoes atrophy as the result of continued pressure.

Two theories have been proposed to account for the frequent coexistence of hyperplastic endometritis with fibromyoma—that of V. Campe and Wyder, in which the hypertrophy of the endometrium is referred to increased congestion caused by the presence of the tumor, and Utter's theory that both conditions are due to a common external irritation, which produces at once hypertrophy of the mucous lining of the uterine cavity and development of the fibroid tumor. The writer favors the latter view, because there appears to be no relation between the degree of hypertrophy of the endometrium and the size of the tumor.

The hæmorrhage accompanying uterine fibroids, he believes, is not necessarily due to the hyperplastic endometritis, since it may be quite as profuse when the mucosa is really atrophied. It is due to several factors—vascular hyperplasia, enlargement of the uterine cavity, the pressure of the tumor upon the uterine veins, accompanying endometritis, etc. From a scientific standpoint, curettage is not to be recommended as a routine practice. Before thoroughly scraping out the uterine cavity, fragments of tissue should be removed for microscopical examniation, in order to decide whether the endometrium is in a condition of hypertrophy or atrophy.

It has been stated that the hypertrophy of the endometrium accompanying fibroid tumors predisposes to the development of carcinoma—in fact, Martin has advanced this as an argument for hysterectomy. The writer admits that cancerous degeneration of the hypertrophied mucosa may occur, but it is extremely rare, since he noted only one case in his twenty-five, and Schmal and Wyder found none in thirty-eight specimens which they examined. Carcinoma is no more likely to develop in connection with fibroids, he concludes, than in any chronic nutritive disturbance of a mucous membrane. Practically, however, obstinate hæmorrhages in a case of uterine fibro-myoma should direct the attention of the gynecologist to the possibility of carcinomatous degeneration, and lead him to consider whether total extirpation may not be preferable in the given case to supra-pubic amputation of the uterus.—*Amer. Jour. of the Med. Sciences.*

DISTINCTION BETWEEN SOLUBLE AND ORGANIZED FERMENTS.—The addition of one per cent. of sodium fluoride immediately and permanently arrests the fermentations caused by organized ferments without interfering with the fermentations produced by soluble ferments. M. Arthus and A. Huber, in examining the action of sodium fluoride upon different fermentations, found that the process of decay, the ammoniacal fermentation of the urine and the alcoholic fermentation of sugar were prevented by the above chemical while the action of saliva, invertin, emulsin, pepsin and pancreatin were not interfered with. In the study of unknown fermentations, the use of sodium fluoride will give important information in deciding the cause of the fermentation.—(*Arch. d. Physiol.*) *Pharm. Centralhalle.*

PICROTOXINE IN THE NIGHT SWEATS OF PHTHISIS.—Dr. D'Amore has published his experience with picrotoxine and atropine in the night sweats of phthisis. He gives the picrotoxine in granules containing 1-160 of a grain each. The author reports forty-five cases thus treated. In fifteen advanced cases he gave without success two pills of atropine containing 1-65 of a grain each daily; in these cases, two to four granules of picrotoxine, continued for several days, relieved the condition very much. In twenty cases, with less pronounced lesions, atropine did well in some and failed in others; but picrotoxine, used for several days, checked the sweating completely. Finally, in ten early cases, the results were equally good from the use of either drug. The writer explains these differences by the cause of the sweating in the several stages of the disorder. In the early stages much of the sweating is due to the action of the secretory nerves, and these are controlled by atropine; later, the sweating is due more to paralysis of the vaso-motors, and as atropine does not act upon these it loses its power, while picrotoxine, which does not act upon the vaso-motor system, retains its value in the advanced stage. —*Les Nouveaux Remèdes.*

THE PATHOLOGY OF THE ENDOMETRIUM.—Uter (*Zeitschrift für Gebürtshulfe und Gynäkologie*, Band xxv, Heft 2) has made an exhaustive study of the condition of the uterine mucosa in abortion, gonorrhœa, uterine fibroids, etc. He finds that the hypertrophy observed in fibroid uteri is mostly of the glandular type. In one case in which the hæmorrhage was unusually profuse, an examination of the uterus showed that there was general hypertrophy of the interstitial tissue without marked vascular hyperplasia, leading to the inference that the bleeding was probably of the nature of parenchymatous oozing. He thinks that the hypertrophy of the endometrium is the initial change, the fibro-myoma developing secondarily—contrary to the view of Ehrendorfer—which is proved by the fact that if the patient is carefully examined when menorrhagia first appears, no enlargement of the corpus uteri may be noted, but after a certain interval it will sometimes be found that a fibroid tumor is developing.

He has not examined any specimen in which sarcomatous degeneration of the endometrium attended carcinoma of the cervix, as described by Landau, but he has found either simple glandular hypertrophy or else true adeno-carcinoma. Occasionally a mixed form of carcinoma and sarcoma (carcino-sarcoma) may exist. The distinction between adenoma and sarcoma of the endometrium is not possible clinically; it is better to reject the term "malignant adenoma," and to retain only carcinoma and adeno-carcinoma.—*Amer. Jour. of the Med. Sciences.*

SULPHUR.—Attention has been drawn by Prof. Schulz (*Berl. klin. Wochenschrift*, 1892, No. 13) to the value of sulphur in certain cases of chlorosis in which iron proves inefficient, and which are not complicated with catarrhal and inflammatory conditions of the digestive tract. The sulphur was used in the form of flowers of sulphur mixed with sugar of milk, as much being taken three times a day as would lie on the point of a knife.

PREPARATION OF CAMPHOR BY MEANS OF OZONE.—M. de Mare utilizes the oxidizing properties of ozone or ozonized air for the preparation of camphor from camphene. The camphene is distilled, the receiver heated, and on submitting it to ozonized air, the camphor begins immediately to sublime on the sides of the cylinder. The camphor thus obtained is identical with the high-priced Japan article.—*Lumière électrique.*

PATHOLOGY OF PARALYSIS AGITANS.—In the *Zeitschrift für Heilkunde* von Ketscher has an important paper dealing with this much disputed subject. An abstract of it is given in a recent number of the *Neurologisches Centralblatt.* The cases of paralysis agitans, with reference to their pathological anatomy, are divisible into two classes—those in which the examination has furnished negative results, and those in which various changes have been found in the nervous system, such as hyperplasia of the connective tissue and neuroglia of the spinal cord, alterations in the nervous tistue itself and vascular changes. Similar changes have been described as occurring in the medulla and pons. Three cases of undoubted paralysis agitans have been investigated by von Ketscher. The nervous system, central and peripheral, was examined and in all three cases changes were found in both regions. The nervous structures showed atrophy, the ganglion cells of the brain were deeply pigmented and altered in form, the nerve fibres, both in the peripheral nerves and in the spinal cord, were degenerated and had in some instances disappeared, whilst the muscular fibres were also atrophied or degenerated. The neuroglia was thickened, especially around the vessels and mostly in the posterior and lateral columns. The vessels also were altered, their walls thickened, and there were miliary aneuryisms and small hæmorrhages present. Similar changes, but slighter in degree, were found as senile changes in patients not the subjects of paralysis agitans; von Ketscher concludes, with Borgherini and others, that paralysis agitans is only the expression of an extreme and premature senility of the nervous system, and he is of the opinion that the primary changes are in the vessels, those in the nervous structures being secondary.

MISCELLANY.

THE PAN-AMERICAN MEDICAL CONGRESS.

OFFICE OF THE SECRETARY GENERAL,
311 ELM STREET.

Cincinnati, April 2, 1893.

The Executive Committee of the first Pan-American Medical Congress promulgates the following information:

1. The First Pan-American Medical Congress will be opened under the Presidency of Prof. William Pepper, M.D., LL.D., President of the University of Pennsylvania, at Washington, D. C., September 5, and will adjourn September 8, 1893.

2. The Countries officially participating in the Congress are restricted to Argentine Republic, Bolivia, Brazil, British North America, British West Indias, (including B. Honduras), Chile, Dominican Republic, Honduras (Sp.), Mexico, Nicaragua, Paraguay, Peru, Salvador, Republic of Columbia, Republic of Costa Rica, Ecuador, Guatemala, Haiti, Kingdom of Hawaii, Spanish West Indias, United States, Uruguay, Venezuela, Danish, Du tch and French West Indias.

Distinguished representatives of the profession from other countries are expected to be present as guests and to participate in the proceedings.

3. The general sessions will be limited in number, one for opening and one for closing the Congress, being all that will be held unless some necessity arises for a change in this particular. This arrangement will permit members to employ all of the time in the scientific work of the sections, which are as follows:

(1) General Medicine, (2) General Surgery, (3) Military Medicine and Surgery, (4) Obstetrics, (5) Gynæcology and Abdominal Surgery, (6) Therapeutics, (7) Anatomy, (8) Physiology, (9) Diseases of children, (10) Pathology, (11) Opthalmology, (12) Laryngology and Rhinology, (13) Otology, (14) Dermatology and Syphilography, (15) General Hygiene and Demography, (16) Marine Hygiene and Quarantine, (17) Orthopædic Surgery, (18) Diseases of the Mind and Nervous System, (19) Oral and Dental Surgery, (20) Medical Pedagogies, (21) Medical Jurisprudence, (22) Railway Surgery.

The evenings will be devoted entirely to social features, the detailed announcements of which will be made by the Committee of Arrangements.

4. Membership is limited to the members of medical professionof the Western Hemisphere, including the West Indi esand Hawaii, who shall either register at the meeting or shall serve the Congress in the capacity of foreign officers. No membership fee will be accepted from any member residing outside the United States. The membership fee for residents of the United States is ten dollars ($10.00.) All registered members will receive a copy of the transactions. Prominent students of the allied sciences will be cordially received as guests and as contributors to the proceedings upon invitation by the Executive Presidents of sections. Ladies' tickets will be issued upon application to registered members only and will entitle the holders to reduced fare and to admission to all entertainments. *Physicians of the United States should registér at once by remitting* $10.00 *to* Dr. A. M. Owen, Evansville, Indiana.

5. Papers are solicited, the hope being entertained that the program will be largely taken up with contributions from outside the United States. Papers may be read in any language, but a copy must be furnished for publication in either Spanish, Portuguese, French or English, and must not occupy more than twenty minutes in reading. An abstract not exceeding six hundred words, must be furnished the Secretary-General in one of the above four languages, by not later than July 10. Abstracts will then be translated by the Literary Bureau into the three remaining languages, and will be published in book form before the meeting of the Congress.

6. The Congress of the United States has adopted a joint resolution whereby all the Governments of the Western Hemisphere have been invited by the President to send delegates to the first Pan-American Medical Congress, and has appropriated a liberal sum for the purposes of entertainment.

7. The reduced fare offered by all transportation companies on the occasion of the World's Columbian Exposition to be held in Chicago, will be open to all persons attending the Pan-American Medical Congress. The Committee of Arrangements will endeavor to secure still greater reduction to members traveling between Chicago and Washington, and an effort will be made to arrange either excursions or circular tours for those who may desire to visit the great universities of the United States. All such arrangements are open to subsequent announcement.

8. By arrangement with the committee at Rome, the date of the Eleventh International Medical Congress has been so appointed that those who attend the meeting of the Pan-American Medical congress may subsequently attend the former. The Pan-American Medical Congress will adjourn on the afternoon of September 8; a steamship will sail from New York on the following day, going by the Azores and Gibraltar and enabling the tourist to reach Rome on the morning of September 20, where the Eleventh International Congress will be opened on the afternoon of September 24. It will thus be seen at a glance, that in a period usually allotted to a summer vacation, the medical tourist may spend a week at the World's Columbian Exposition, the next week at the Pan-American Medical Congress, the next week and a half with delightful companions in a voyage to the Mediterranean, the next few days in witnessing the sights of Rome, and the following week at the Eleventh International Medical Congress. Special reduced rates for members and their families are given both ways on the trip to Rome, particulars of which will be furnished on application to the Secretary-General, 311 Elm St., Cincinnati, O., who is also a member of the American Committee of the Eleventh International Congress.

The best possible arrangements will be made with the excellent hotels with which the National Capital is abundantly supplied. The Committee of Arrangements will do its utmost to secure desirable rates and locations for members and their families. The headquarters of the Committee of Arrangements is at the Arlington Hotel, where communications may be addressed either to Dr. Samuel S. Adams, Chairman, or Dr. J. R. Wellington, Secretary.

10. Copies of the official announcement of the Congress, containing the regulations and the names of all officers and committeemen of the General Congress and of the various Sections, and residing in the various countries, may be obtained upon application to the Secretary-General, or to either of the members of the International Executive Committee, as follows:

Argentine Republic, Dr. Pedro Lagleyze, Calle Artes 46, Buenos Aires; Bolivia, Dr. Emilio di Tomassi, Calle Ayacucho 26, La Paz; British West Indies, Dr. James A. DeWolf, Port of Spain; British North America, Dr. James F. W. Ross, 481 Sherborne St., Toronto; Chili, Dr. Moises Amaral, Facultad de Medicina, Santiago; Costa Rica, Dr. Daniel Nuñez, San José; Dominican Republic, Dr. Julio Leon, Santo Domingo; Ecuador, Dr. Ricardo Cucalon, Guyaquil; Guatemala, Dr. José Monteros, Avenida sur No. 8, Guatemala City; Haiti, Dr. T. Lamothe, Rue du Centre, Port au Prince; Hawai, Dr. John A. McGrew, Honolulu; Honduras (Spanish), Dr. Geo. Bernhardt, Tegucigalpa; Mexico, Dr. Tomás Noriega, Hospital de Jesus, Mexico; Nicaragua, Dr. J. I. Urtecho, Calle Real, Granada; Paraguay, ——; Peru, Dr. Manuel C. Barrios, Facultad de Medicina, Lima; Republic of Colombia, Dr. P. M. Ibanez, Calle 5a Numero 99, Bogota; Salvador, Dr. David J. Guzman, San Salvador; Spanish West Indies, Dr. Juan Santos Fernandez, Calle Reina No. 92, Havana; United States of America, Dr. A. Vander Veer, 28 Eagle St., Albany, N. Y.; United States of Brazil, Dr. Carlos Costa, Rua Largo da Misericordia 7, Rio de Janeiro; Uruguay, Dr. Jacinto de Leon, Calle de Florida No. 65, Montevideo; Venezuela, Dr. Elias Rodriguez, Caracas.

By the Executive Committee.

CHARLES A. L. REED, Sec'y-General.

THE REPUBLIC OF COLOMBIA AND THE PAN-AMERICAN MEDICAL CONGRESS.—The Department of State at Washington has promulgated the following letter recently forwarded by the United States Minister to Colombia:

Republic of Colombia Foreign Office, Bogotia, March 14, 1892.—To His Excellency, John T. Abbott, Envoy Extraordinary and Minister Plenipotentiary of the United States, etc. —*Sir:*—I have received, together with your very polite note of Feb. 27th last, a copy of the instructions of the Department of State in Washingson relating to the meeting of the Pan-American Medical Congress where sessions will take place in the coming month of September.

The Government of Colombia recognizes that the labors of that Congress will favor the advancement of medical science and will actively contribute to the advancement of judicious regulations connected with hygiene and naval quarantine. In response to the courteous invitation which the Government of the United States has been pleased to extend through your honorable Legation to be officially represented in the said Congress this government has appointed as its delegate for that purpose, Dr. Pio Rengifo, to whom instructions will be transmitted through the office of Public Instruction.

Asking you to be kind enough to notify the proper person of the appointment of the said Dr. Rengifo, I am pleased to reiterate to your Excellency, the assurances of my most distinguished consideration. MARCO F. SUAREZ,

Secretary of Foreign Affairs.

GOVERNMENT APPROPRIATION FOR THE PAN-AMERICAN MEDICL CONGRESS:—Early in the last session of Congress the Secretary of the Treasury and the Secretary of State jointly recommended that an item be inserted in the Sundry Civil Bill apppropriating $15,000 for the entertainment of the Pan-American Medical Congress. The item was rejected by the House Committee on Ways and Means, but was reintroduced in the Conference Committee by Senator Gorman under whose able championship it was agreed to and became a law. The medical profession will not soon forget this considerate act on the part of the senator from Maryland.

GOVERNMENTAL DELEGATES TO THE PAN-AMERICAN MEDICAL CONGRESS:—Hon. Rowland B. Malaney, United States Minister to Ecuador, transmits information through the Department of State that Dr. Ricondo Cucalon of Guayaquil, has been appointed one of the delegates for that country to the Congress.

The United States *Chargè d' Affairs* at Petropolis, has transmitted this information through the Department that the Government of Brazil has accepted our invitation to take part in the Congress, and has appointed Dr. J. Baptista da Lacerda, the distinguished teacher and scientist of Rio de Janerio, one of the delegates thereto.

The Mexican Legation at Washington, furnishes information that Dr. Fernando López, Surgeon-General of the Mexican Army, has been appointed one of the delegates to represent the Government of Mexico.

THE FORTY-THIRD annual meeting of the Illinois State Medical Society will be held in Chicago, in the Methodist Church Block, cor., Washington and Clark Streets, on the 16th, 17th and 18th of May, 1893. The meeting will be called to order promptly at 9 o'clock a. m., Tuesday. To avoid the usual delay and confusion incident to registration and pay-

ing dues during the first half-day, the officers will endeavor to have registration completed by mail, in advance. All members are respectfully urged to co-operate by filling out and returning their registration blanks with the dues for the year, to the Treasurer. The executive committee has decided, subject to change to have four full half-day sessions, and one evening session, leaving Wednesday afternoon free, and hoping to adjourn finally about noon Thursday. A detailed program will be issued and mailed to members before the meeting. The Committee of arrangements hopes to secure the usual reduction in rail road fare.

D. W. GRAHAM, *Sec'y.*

EXECUTIVE COMMITTEE OF THE CONGRESS OF AMERICAN PHYSICIANS AND SURGEONS.—At a recent meeting of the Executive Committee of the Third Congress of American Physicians and Surgeons it was decided that three afternoons and one evening of the Congress be assigned, in session of one and one-half hours each, to seven of the fourteen participating organizations; and that each society selected shall be requested to prepare its own program, and select its own speakers.

The selection of the societies under this resolution, to prepare programs for the Third Congress, was made alphabetically, as follows: 1. Anatomists; 2. Climatologists; 3. Dermatologists; 4. Genito-Urinary; 5. Gynecologists; 6. Laryngologists; 7. Neurologists.

The ophthalmologists, orthopædists, otologists, pediatrics, physicians, physiologists and surgeons under this resolution will in like manner prepare programs for the Fourth Congress.

The President and the Secretary of the Congress and the Chairman and Secretary of the Executive Committee were made a Standing Committee to arrange the details of the Congress.

Dr. L. C. Gray was elected chairman of the Executive Committee, *vice*, Dr. William Pepper, resigned.

It was further decided to hold the Congress in Washington, D. C., on the last Tuesday in May, 1884, and the three succeeding days.

NEWTON M. SHAFFER,
Secretary Executive Com.

OFFICIAL LIST OF CHANGES in the Stations and Duties of Officers Serving in the Medical Department, U. S. Army, from April 15, 1893, to April 21, 1893.

Capt. Henry S. Kilbourne, Asst. Surgeon U. S. A., will be relieved from duty at Ft. Riley, Kan., on receipt of this order at that station, and will report in person to the commanding officer, Ft. Clark, Tex., for duty at that post.

Major Henry M. Cronkhite, Surgeon U. S. A., will proceed to Ft. Wadsworth, New York Harbor, and report to the post commander for temporary duty.

First Lieut. Merritte W. Ireland, Asst. Surgeon, will be relieved from duty at Ft. Riley, Kan., on receipt of this order, and will report in person to the commanding officer, Ft. Apache, Ariz., for duty at that post, relieving Capt. Nathan S. Jarvis, Asst. Surgeon. Capt. Jarvis, upon being relieved by First Lieut. Ireland, will report in person to the commanding officer, David's Island, N. Y., for duty at that post, relieving First Lieut. Madison M. Brewster, Asst. Surgeon U. S. A. First Lieut. Brewster, upon being relieved by Capt. Jarvis, will report in person to the commanding officer, Ft. Riley, Kan., for duty at that post.

OFFICIAL LIST OF CHANGES in the Medical Corps of the U. S. Navy, for the Week Ending April 22, 1893.

Medical Director A. C. Gorgas, from the Naval Hospital, Philanelphia, and to special duty, Philadelphia, Pa.

Medical Director D. Kindleberger, from special duty, Philadelphia, Pa., and to the Naval Hospital, Philadelphia, Pa.

Asst. Surgeon A. B. Pusey, ordered to the Naval Hospital, Norfolk, Va.

Asst. Surgeon Henry La Motte, detached from the U. S. S. "Vesuvius," and to the Naval Hospital, Norfolk, for treatment.

Asst. Surgeon C. W. De Valin, detached from the Naval Hospital, Norfolk, Va., and to the U. S. S. "Vesuvius."

Surgeon John C. Wise, detached from the U. S. S. "Alliance," and to the Naval Hospital, Norfolk, Va., for treatment.

OFFICIAL LIST OF CHANGES of Stations and Duties of Medical Officers of the U. S. Marine-Hospital Service, for the five weeks ended April 8, 1893.

Surgeon P. H. Bailhache, detailed as chairman of board for physical examination of officers, Revenue Marine Service, March 21, 1893.

Surgeon H. W. Sawtelle, detailed as chairman of board for physical examination of officers, Revenue Marine Service, March 7, 1893.

Surgeon H. W. Austin, detailed as chairman of board to prepare quarantine regulations, March 10, 1893.

Surgeon J. M. Gassaway, to proceed to Ellfs Island, New York, for temporary duty, then proceed to Cincinnati, O., St. Louis, Mo., Cairo, Ill., and Memphis, Tenn., as inspector. April 3, 1893.

Surgeon G. W. Stoner, to inspect Hogg Island, Md., for quarantine purpose. March 17, 1893.

Mead, T. W., Surgeon, detailed as chairman of board for physical examination of officers and candidates, Revenue Marine Service, March 28, 1893.

Surgeon H. R. Carter, detailed as member of board to prepare quarantine regulations, March 10, 1893.

P. A. Surgeon C. E. Banks, to proceed to Halifax, N. S., for temporary duty, March 29, 1893.

P. A. Surgeon P. C. Kalloch, granted leave of absence for ten days. March 24, 1893.

P. A. Surgeon A. H. Glennan, to proceed to Vineyard Haven, Mass., for temporary duty, March 6, 1893. To proceed to Cairo, Ill., for duty, March 22, 1893.

P. A. Surgeon Eugene Wasdin, to proceed to South Atlantic Quarantine Station for duty, March 22, 1893.

P. A. Surgeon P. M. Carrington, to report at this Bureau for instructions preparatory to going to Hamburg, April 8, 1893.

P. A. Surgeon L. L. Williams, detailed for duty in office U. S. Consul, Liverpool, Eng. April 5, 1898.

P. A. Surgeon W. D. Bratton, to proceed to Buffalo, N. Y., for duty, March 6, 1893.

P. A. Surgeon W. P. McIntosh, detailed as member of board for physical examination of officers, Revenue Marine Service, March 7, 1893.

P. A. Surgeon W. J. Pettus, detailed for duty in office U. S. Consul, Southampton, Eng.

P. A. Surgeon J. J. Kinyoun, detailed as member of board to prepare quarantine regulations, March 10, 1893.

P. A. Surgeon R. M. Woodward, detached from duty in office of U. S. Consul, Rotterdam, Netherlands.

P. A. Surgeon H. D. Geddings, detailed as recorder of board to prepare quarantine regulations, March 10, 1893. Detailed as member of board for physical examination of officers and candidates, Revenue Marine Service, March 28, 1893.

Asst. Surgeon S. H. Hussey, to proceed to Cincinnati, O., for duty, March 21, 1893. Granted leave of absence for thirty days. March 24, 1893.

Asst. Surgeon J. C. Perry, to proceed to Vineyard Haven, Mass., for duty, March 13, 1893.

Asst. Surgeon G. B. Young, detailed for duty in office of U. S. Consul, Naples, Italy, March 6, 1893.

Asst. Surgeon B. W. Brown, detailed for duty in office U. S. Consul, Genoa, Italy.

Asst. Surgeon E. R. Houghton, detailed for duty in office U. S. Consul, Havre, France.

Asst. Surgeon J. A. Nydegger, to proceed to Pittsburg, Pa., for duty, March 6, 1893.

Asst. Surgeon W. J. S. Stewart, granted leave of absence for five days, March 8, 1893. To proceed to South Atlantic Quarantine for temporary duty, March 10, 1893. To proceed to Baltimore, Md., for duty, March 22, 1893.

Asst. Surgeon Edgar Strayer, to proceed to Portland, Me., for temporary duty, March 29, 1893.

Asst. Surgeon Rupert Blue, to proceed to Cairo, Ill., for temporary duty, March 7, 1893. To proceed to Galveston, Tex., for duty, March 22, 1893.

Asst. Surgeon J. H. Oakley, assigned to duty at Savannah, Ga., March 23, 1893.

Asst. Surgeon Norman Seaton, assigned to duty at Evansville, Ind., April 8, 1893.

APPOINTMENTS.

Rupert Blue, of South Carolina, commissioned Asst. Surgeon March 3, 1893.

James H. Oakley, of Illinois, commissioned Asst. Surgeon March 22, 1898.

Norman Seaton, of Indiana, commissioned Asst. Surgeon April 6, 1893.

RESIGNATIONS.

Asst. Surgeon A. W. Condict, resigned to take effect August 1, 1893.

Asst. Surgeon S. H. Hussey, resigned to take effect June 30, 1893.